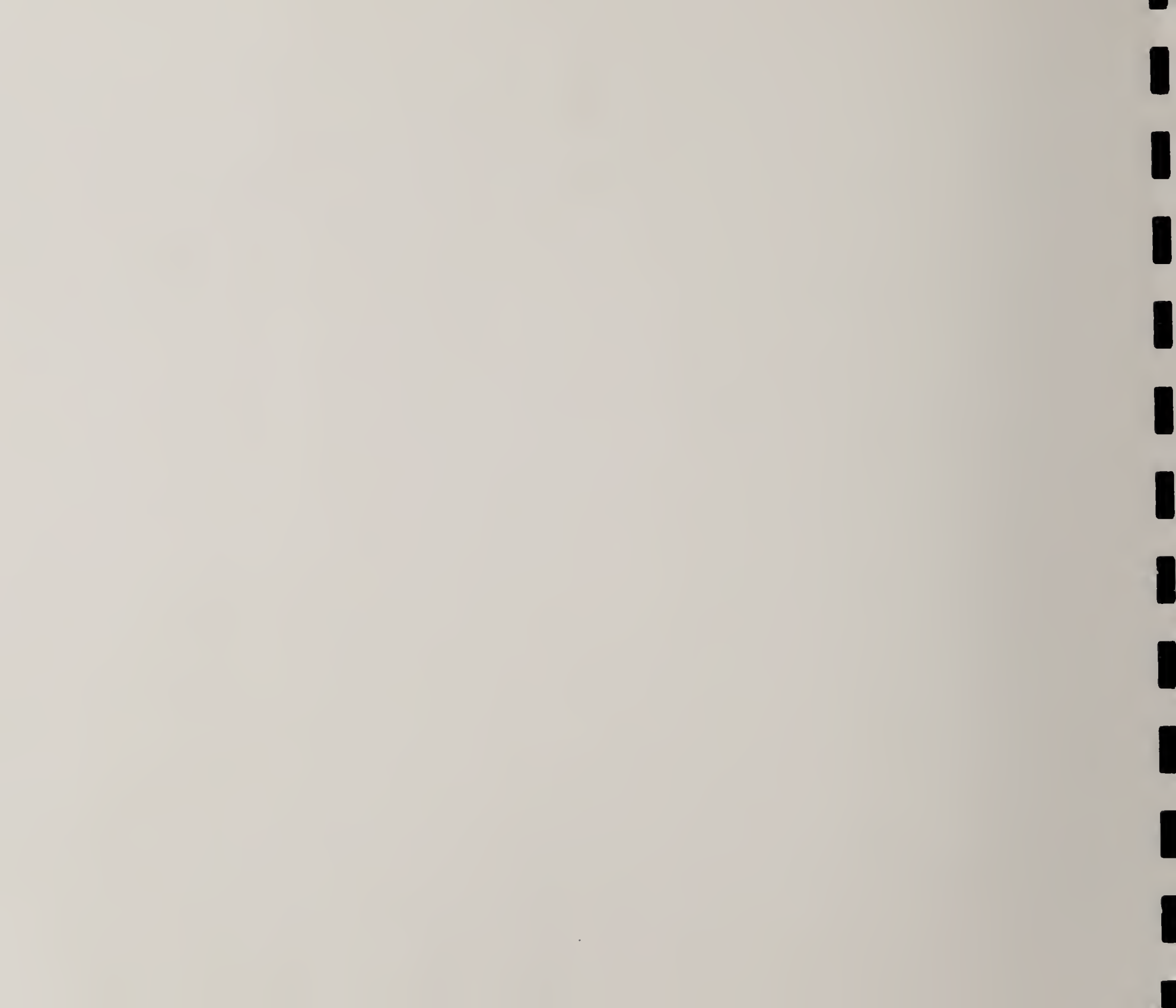


H. J. L. MOSES, M.B. (Edinburgh), V.M.C.S. (Lanc), DCH, DTH

the Health of the City of Leicester during 19





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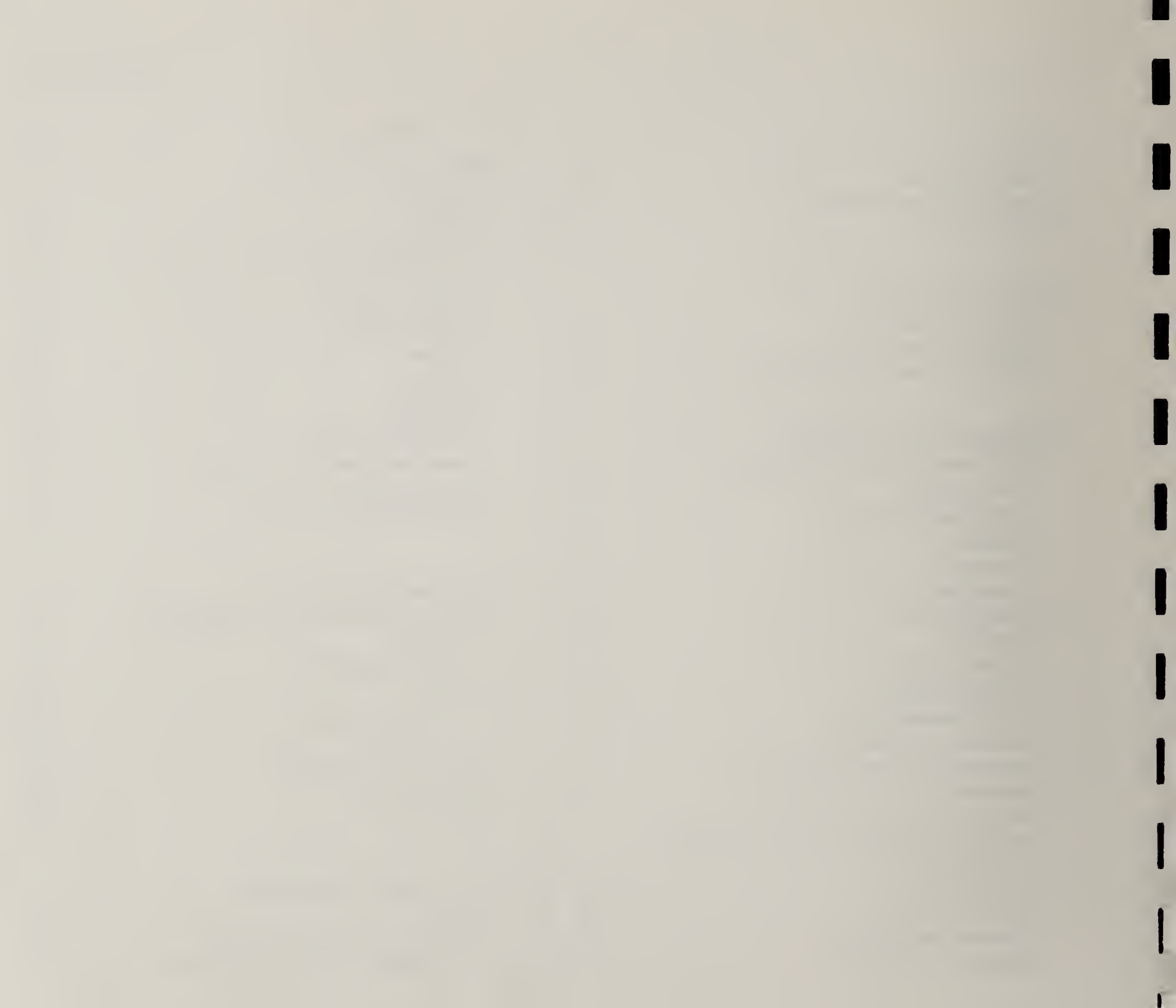
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M.O.H. LEICESTER. 1971

Miss Earl A227 21/3/73 24 APR 1973



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Health Committee

(as constituted 18th May, 1972)

Chairman Coun Mrs J M Setchfield

Vice-Chairman Coun G W Billington

Coun M Clayton
Coun Mrs L Davies
Coun H Dunphy
Coun J E S Ellis

Coun R A Flint
Ald N R Hanger, MPS, JP
Coun P Kind
Coun J K McLaughlan

Rev Coun K F Middleton
Coun Mrs F F L Riley
Ald A R Williamson

Co-opted Members Dr A E Fairbrother

Miss M H Perkins

Improvement Areas Sub-Committee Coun G W Billington
Coun Mrs L Davies
Coun J E S Ellis

Ald N R Hanger, MPS, JP
Coun P Kind
Coun Mrs F F L Riley

Coun Mrs J M Setchfield
Ald A R Williamson

Senior Public Health Officers

Medical Officer of Health B J L Moss, *MB, BS(London), MRCS, LRCP, DCH, DPH*

Senior Medical Officer (Personal Health Services) Stephanie A Laing, *MRCS, LRCP, CPH, DCH, DPH*

Consultant Chest Physician C M Connolly, *BSc, MD, MRCP, DPH*

City Analyst E R Pike *BSc(Aston), MChemA, MPhA, MPS, FIFST, FRIC*

Chief Public Health Inspector G A Hiller, *FRSH, FAPHI*

Chief Administrative Assistant G Cree, *DMA*

Chief Administrative Nursing Officer Jane I Jones, *SRN, SCM, QNS, HV, HV Tutor's Cert*

Chief Ambulance Officer D H Jones, *MIAI* (rsigned as from 2.1.72)
J McCafferty, *AIAO* (appointed as from 3.1.72)

*To the Chairman, the Lord Mayor, and Members of the
City Health Committee*

Mr. Chairman, my Lord Mayor, Ladies and Gentlemen,
The health of the public has shown considerable improvement compared with 100 years ago, but the factors influencing health and associated with the prevention of disease are constantly changing and it is essential that these changes be monitored in order that the appropriate action may be undertaken should circumstances arise that may be prejudicial to the health of the people.

Over the centuries the characteristics of the population of this country have been under-going change as a result of invasion and the arrival of immigrants from many parts of the world. But whereas in the past this was a slow process and often influenced only small sectors of the country, the past decade has been marked by substantial alterations in the proportion of the various ethnic groups making up the population of many cities and towns in this country. Furthermore, the distribution of immigrants has not been uniform and thus certain towns and even certain areas of towns have shown a remarkably quick change in the age structure and characteristics of the population within their boundaries. This has had a marked effect on housing, morbidity and mortality. The recent Census showed a hypothetical jump in the size of the population of some 10,000 people since the figures were given for last year but in view of the difficulty of obtaining accurate information, even from those who do speak English, it must be realised that this still remains an estimate and may still constitute an under-representation of the true population. For this reason amongst others, the use of the crude census figures alone may give an inadequate representation of the changes that have occurred in the numbers and social circumstances of the population.

Housing is a controversial subject on which much has been written by many people, thus it may be correct to assume that if there was a grand re-shuffle the number of

units of accommodation that could be made available within the City may be adequate for the various people who required accommodation, but there is no likelihood of such satisfactory re-deployment being reached on a voluntary basis. We are therefore faced with a situation where an old person may reside alone in one cold damp room of a six-roomed house. By contrast at the other extreme a family of 8 may be confined to one or two rooms in a house in multiple occupation with shared amenities. The prevalence of such conditions may not only lead to strife but a deterioration in the standards of the family and a lack of consideration for those around. The provision of adequate and suitable accommodation for those in need must be considered a priority. Whilst continuing in the attempt to provide housing at the minimum cost, may we not be failing to provide the right environmental conditions? Are the present day developments the slums of the future? Is the creation of a number of units of accommodation on a new housing estate the sole factor to be taken into consideration? Fear must be expressed that when development has taken place it has not always been associated with a corresponding provision of social amenities. More and more evidence is being compiled to indicate the problems of physical and mental ill-health that may arise where inadequate consideration has been given to both the immediate and long terms effects of living in such conditions.

The United Nations conference in Stockholm on the Human Environment has indicated that there is an increasing awareness amongst environmentalists, demographers and ecologists of the number of hazards that are confronting mankind as a result of the rapid advances that have occurred in our industrial society. Contamination by inert substances, such as plastics and toxic chemicals has already occurred and the problem is likely to increase unless active steps are taken to prevent the indiscriminate disposal of a variety of waste products that may be detrimental to the health of the community. The litter blown about from

rubbish tips and the eyesore created by accumulating dumps of old cars constitute obvious reminders of some of the unpleasant aspects of the waste problem. Are we taking active steps to eradicate these nuisances? The development of smoke control areas may have removed unsightly black smoke from our city, but this is not enough and the public are increasingly demanding that action be taken against those who continue to pollute the atmosphere, the waterways and the land with little consideration for the hazard that may be created both immediately and in the long term. The recent report entitled 'The problem of persistent chemicals' published by the Organisation for Economic Co-operation and Development, emphasises the need to limit the use of a wide range of chemical substances if we are to avoid gross disturbance of the national ecology. Are we really only paying lip service to the problem of pollution?

The continued prevalence of tuberculosis amongst certain sections of the community has been a cause for concern. Whilst the development of sophisticated diagnostic techniques may be of help in identifying the disease, making a diagnosis is one thing, ensuring that the patient obtains the appropriate treatment and the necessary support, both to speed his recovery and to prevent the spread of disease is of the utmost importance. At the present time the task of prevention is being seriously hampered by a failure to provide the back-up resources necessary for such an operation.

We are faced with a number of Health problems—high density housing, a multi-racial population, a steadily mounting geriatric problem and the erroneous belief that the problems of to-day can be tackled with the limited resources made available in the past. It is to be hoped that there will be some urgent and radical re-thinking given to the allocation of resources to the Community Health Services. We are aware of the tasks but without the manpower resources the task is physically impossible. Perhaps one day it will be realised that the standard of service that can be provided is

proportional to the expenditure. In the same way that failure to provide adequate and satisfactory materials to construct a house may lead to progressive deterioration and ultimate collapse so may the failure to provide staff result in detriment to the patient. It is as well to remember that we shall all be patients at one time or another.

I am,

Mr. Chairman, my Lord Mayor, Ladies and Gentlemen,

Your obedient servant,

B. J. L. MOSS, M.B, B.S, D.P.H.

Medical Officer of Health

Health Department

Midland House

52-54 Charles Street

Leicester

(Tel. No. 25732)

June, 1972

Vital Statistics Summary of statistics for the year 1971

	1971	1970
Population (estimated) mid 1971	282000	276690
Population at Census, 23rd April 1961	273298	273298
Marriages	2663	2870
Area Comparability Factor: Births	1.04	1.04
Deaths	0.98	0.98
Live births (corrected):		
Number	4756	4863
Rate per 1000 population (standardised birth rate=17.60)	16.79	17.58
Number of illegitimate live births	587	629
Illegitimate live births per cent of total live births	12.0	12.93
Stillbirths: Number	62	61
Stillbirth rate per 1000 total live and stillbirths	13.0	12.39
Illegitimate stillbirth rate per 1000 total illegitimate live & stillbirths	13.45	21.77
Total live and stillbirths	4818	4924
Infant deaths (deaths under 1 year)	107	102
Infant mortality rates:		
Total infant deaths per 1000 total live births	22.0	20.97
Legitimate infant deaths per 1000 legitimate live births	21.0	20.08
Illegitimate infant deaths per 1000 illegitimate live births	31.0	27.03
Neo-natal mortality rate (deaths under four weeks per 1000 total live births)	14.0	11.31
Early neo-natal mortality rate (deaths under one week per 1000 total live births)	13.0	10.28
Perinatal mortality rate (stillbirths and deaths under one week combined per 1000 total live and stillbirths)	26.0	22.54
Illegitimate perinatal mortality rate (illegitimate stillbirths and illegitimate deaths under one week combined per 1000 total illegitimate live and stillbirths)	28.57	27.99
Legitimate perinatal mortality rate (legitimate stillbirths and legitimate deaths under one week combined per 1000 total legitimate live and stillbirths)	25.10	21.72
Maternal mortality (including abortion):		
Number of deaths	5	4
Rate per 1000 total live and stillbirths	1.0	0.81
Deaths (corrected for transferable deaths)	3474	3452
Death rate (standardised death rate=12.10)	12.32	12.47
Area of city (in acres)	18144	18144
Number of inhabited tenements January 1972	91285	90741
Number of empty houses January 1972	2651	2528
Rateable value at 1st April	£15676819	£15580412
General rate for the year 1971/72:		
Total rate poundage levied	76.5p in £	72p in £1
For domestic properties (dwelling houses)	67p in £1	63p in £1
For mixed properties (mainly domestic)	72p in £1	67p in £1
<i>Registrar-General's figures – England and Wales</i>	1971	1970
Birth rate	16.0	16.0
Death rate	11.6	11.7
Infant mortality rate (per 1000 births)	18.0	18.0

Causes of death at different periods of life during 1971

			4 wks under and 4 under wks 1 year		Age in years									
Cause of death		sex	Total all ages											
				1—	5—	15—	25—	35—	45—	55—	65—	75+		
B4	Enteritis and other Diarrhoeal diseases	m	3	.	1	.	.	.	.	.	1	.	1
		f	4	.	1	1	1	.	.	.	.	.	1
B5	Tuberculosis of Respiratory System	m	5	.	.	.	.	.	.	1	1	1	2
		f	1	.	.	.	.	.	.	.	1	.	.
B6(2)	Other Tuberculosis	m	1	.	.	.	.	.	.	1	.	.	.
		f	2	.	.	1	.	.	1	.	.	.	.
B9	Whooping Cough	m	.	.	.	.	.	.	.	.	.	.	.
		f	1	.	.	1	.	.	.	.	.	.	.
B10	Streptococcal Sore Throat, Scarlet Fever	m	.	.	.	.	.	.	.	.	.	.	.
		f	1	.	.	.	.	1	.	.	.	.	.
B11	Meningococcal Infection	m	1	.	.	1	.	.	.	.	.	.	.
		f	.	.	.	.	.	.	.	.	.	.	.
B17	Syphilis and its sequelae	m	.	.	.	.	.	.	.	.	.	.	.
		f	1	.	.	.	.	.	.	.	.	1	.
B18	Other Infective and Parasitic Diseases	m	3	.	1	1	.	.	.	.	.	1	.
		f	5	.	2	.	.	1	.	.	1	.	1	
B19(1)	Malignant Neoplasm, Buccal Cavity, etc.	m	5	.	.	.	.	.	.	1	2	1	1
		f	.	.	.	.	.	.	.	.	.	.	.
B19(2)	Malignant Neoplasm, Oesophagus	m	10	.	.	.	.	.	.	2	4	4	.
		f	8	.	.	.	.	.	.	.	1	2	5
B19(3)	Malignant Neoplasm, Stomach	m	51	.	.	.	.	.	1	3	17	18	12
		f	30	.	.	.	.	.	.	2	7	9	12
B19(4)	Malignant Neoplasm, Intestine	m	44	.	.	.	.	.	1	1	6	14	22
		f	45	.	.	.	.	.	.	2	7	9	27
B19(5)	Malignant Neoplasm, Larynx	m	1	.	.	.	.	.	.	.	.	1	.
		f	1	.	.	.	.	.	.	.	.	1	.
B19(6)	Malignant Neoplasm, Lung, Bronchus	m	158	.	.	.	.	.	3	11	52	75	17
		f	22	.	.	.	.	.	.	2	6	11	3
B19(7)	Malignant Neoplasm, Breast	m	1	.	.	.	.	.	.	.	.	.	1
		f	63	.	.	.	.	.	1	.	11	16	16
B19(8)	Malignant Neoplasm, Uterus	f	29	.	.	.	.	1	.	5	5	13	5
B19(9)	Malignant Neoplasm, Prostate	m	27	.	.	.	.	.	.	.	1	13	13
B19(10)	Leukaemia	m	7	.	.	.	1	1	.	.	1	1	3	
		f	6	.	.	.	.	.	.	1	2	1	2
B19(11)	Other Malignant Neoplasms	m	94	.	.	.	.	2	4	10	11	48	19
		f	89	.	.	1	.	2	1	.	9	16	28	32
B20	Benign and unspecified Neoplasms	m	6	.	.	.	.	1	.	.	2	3	.
		f	7	.	.	.	.	1	.	1	1	2	2
B21	Diabetes Mellitus	m	14	.	.	.	.	.	.	2	1	4	7
		f	15	.	.	.	1	.	.	.	.	6	8

Causes of death continued

Cause of death		sex	Total all ages	4 wks under and 4 under wks 1 year		Age in years								
						1—	5—	15—	25—	35—	45—	55—	65—	75+
B22	Avitaminoses, etc.	<i>m</i>	.	.	.	.	.	.	.	.	.	.	.	.
		<i>f</i>	1	.	.	.	.	.	.	.	.	.	.	1
B46(1)	Other Endocrine etc. Diseases	<i>m</i>	3	.	.	.	.	1	.	.	.	1	1	.
		<i>f</i>	8	.	.	.	.	.	.	.	.	.	2	6
B23	Anaemias	<i>m</i>	3	.	.	.	.	.	.	.	1	.	1	1
		<i>f</i>	8	.	1	.	.	.	.	.	1	.	2	4
B46(2)	Other diseases of Blood, etc.	<i>m</i>	1	.	.	.	.	.	.	.	1	.	.	.
		<i>f</i>	.	.	.	.	.	.	.	.	.	.	.	.
B46(3)	Mental Disorders	<i>m</i>	1	.	.	.	.	.	.	.	.	.	.	1
		<i>f</i>	5	.	.	.	1	.	.	.	.	1	.	3
B24	Meningitis	<i>m</i>	3	1	1	.	.	1	.	.	.	.	.	.
		<i>f</i>	.	.	.	.	.	.	.	.	.	.	.	.
B46(4)	Multiple Sclerosis	<i>m</i>	1	.	.	.	.	.	.	.	1	.	.	.
		<i>f</i>	.	.	.	.	.	.	.	.	.	.	.	.
B45(5)	Other diseases of Nervous System	<i>m</i>	20	.	.	.	.	4	1	1	2	3	4	5
		<i>f</i>	11	.	.	.	.	.	.	.	1	4	2	4
B26	Chronic Rheumatic Heart Disease	<i>m</i>	18	.	.	.	.	.	.	1	1	6	7	3
		<i>f</i>	28	.	.	.	.	.	1	.	.	5	13	9
B27	Hypertensive Disease	<i>m</i>	27	.	.	.	.	.	.	.	3	1	9	14
		<i>f</i>	29	.	.	.	.	.	.	.	2	3	7	17
B28	Ischaemic Heart Disease	<i>m</i>	451	.	.	.	.	.	2	9	51	97	150	142
		<i>f</i>	316	.	.	.	.	.	.	1	4	35	84	192
B29	Other forms of Heart Disease	<i>m</i>	112	.	.	.	.	.	1	1	4	11	36	59
		<i>f</i>	154	.	.	1	.	2	.	.	2	3	24	122
B30	Cerebrovascular Disease	<i>m</i>	210	.	.	.	.	.	.	3	7	26	64	110
		<i>f</i>	309	.	.	.	.	1	.	1	2	19	63	223
B45(6)	Other diseases of Circulatory System	<i>m</i>	59	.	.	.	.	.	.	.	2	8	15	34
		<i>f</i>	80	.	.	.	.	.	.	1	1	3	14	61
B31	Influenza	<i>m</i>	2	.	.	.	.	.	.	.	.	.	1	1
		<i>f</i>	.	.	.	.	.	.	.	.	.	.	.	.
B32	Pneumonia	<i>m</i>	106	1	7	1	.	1	.	2	3	9	24	58
		<i>f</i>	123	1	3	1	.	1	.	3	5	2	19	88
B33(1)	Bronchitis and Emphysema	<i>m</i>	117	.	1	.	.	.	.	1	6	23	49	37
		<i>f</i>	36	.	.	.	.	.	.	.	2	7	12	15
B33(2)	Asthma	<i>m</i>	2	.	.	.	.	1	.	.	.	.	1	.
		<i>f</i>	4	.	.	.	.	.	.	.	.	2	1	1
B46(7)	Other diseases of Respiratory System	<i>m</i>	24	2	8	.	.	.	.	.	1	2	5	6
		<i>f</i>	8	.	1	.	.	.	2	.	.	1	.	4

Causes of death continued

Cause of death		sex	Total all ages	4 wks under and 4 under wks 1 year		Age in years									
						1—	5—	15—	25—	35—	45—	55—	65—	75+	
B34	Peptic Ulcer	<i>m</i>	15	.	.	.	.	.	.	1	1	2	3	8
		<i>f</i>	6	.	.	.	.	.	.	.	.	.	3	3
B35	Appendicitis	<i>m</i>	1	.	.	.	.	.	.	.	.	.	.	1
		<i>f</i>	2	.	.	.	1	.	.	.	.	.	1	.
B36	Intestinal Obstruction and Hernia	<i>m</i>	11	2	.	.	.	.	.	1	.	1	2	5
		<i>f</i>	12	.	.	.	.	1	.	.	1	1	1	8
B37	Cirrhosis of Liver	<i>m</i>	10	.	.	.	.	1	.	.	3	5	1	.
		<i>f</i>	4	.	.	.	.	.	.	.	.	1	2	1
B46(8)	Other diseases of Digestive System	<i>m</i>	13	.	.	.	.	.	.	.	1	1	3	8
		<i>f</i>	36	.	1	.	1	.	.	.	4	4	9	17	
B38	Nephritis and Nephrosis	<i>m</i>	8	.	.	.	.	.	.	1	1	1	4	1
		<i>f</i>	9	.	.	.	.	.	.	2	1	1	1	4
B39	Hyperplasia of Prostate	<i>m</i>	11	.	.	.	.	.	.	.	.	.	3	8
B46(9)	Other diseases, Genito-Urinary System	<i>m</i>	7	.	.	1	.	.	.	.	.	2	.	4
		<i>f</i>	13	.	.	.	.	1	.	.	3	2	4	3
B40	Abortion	<i>f</i>	2	.	.	.	.	.	1	1	.	.	.	.
B46(10)	Diseases of Skin, Subcutaneous Tissue	<i>m</i>	.	.	.	.	.	.	.	.	.	.	.	.
		<i>f</i>	2	.	.	.	.	.	.	1	.	1	.	.
B46(11)	Diseases of Musculo-Skeletal System	<i>m</i>	7	.	.	.	.	.	.	.	1	2	1	3
		<i>f</i>	8	.	.	.	.	.	.	.	.	1	3	4
B42	Congenital Anomalies	<i>m</i>	17	4	5	2	5	.	.	.	1	.	.	.	
		<i>f</i>	14	7	3	.	.	1	.	.	2	1	.	.	
B43	Birth injury, Difficult Labour, etc.	<i>m</i>	15	14	1	.	.	.	.	.	.	.	.	.
		<i>f</i>	5	5	.	.	.	.	.	.	.	.	.	.
B44	Other causes of Perinatal mortality	<i>m</i>	16	16	.	.	.	.	.	.	.	.	.	.
		<i>f</i>	13	13	.	.	.	.	.	.	.	.	.	.
B45	Symptoms and ill-defined conditions	<i>m</i>	3	.	1	.	.	.	.	.	.	.	.	2
		<i>f</i>	17	.	.	.	.	.	.	.	.	1	.	16
BE47	Motor Vehicle accidents	<i>m</i>	27	.	1	2	3	7	2	2	2	.	5	3	
		<i>f</i>	10	.	.	1	1	3	.	.	1	.	1	3	
BE48	All other accidents	<i>m</i>	28	.	.	2	3	1	1	5	3	2	2	9	
		<i>f</i>	50	1	1	.	1	1	.	.	.	2	10	34	
BE49	Suicide and self-inflicted injuries	<i>m</i>	11	.	.	.	.	1	3	.	5	.	2	.
		<i>f</i>	14	.	.	.	.	.	2	1	3	2	5	.
BE50	All other external causes	<i>m</i>	10	.	.	.	.	.	2	.	3	3	2	.
		<i>f</i>	6	.	.	.	1	.	.	.	.	3	2	.
Total all causes		<i>m</i>	1801	40	27	10	12	19	15	37	137	305	581	613	
		<i>f</i>	1673	27	13	7	8	15	11	11	68	168	387	958	

Blind Persons

I am indebted to the Director of Social Services for the information included in this Section.

Classification according to age (at date of registration) of **blind persons** registered in 1971

		0	1	2	3	4	5-10	11-15	16-20	21-29	30-39	40-49	50-59	60-64	65-69	70-79	80-84	85-89	90+	Total
Cataract	<i>m</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	3	.	1	2	6
	<i>f</i>	.	.	.	.	.	.	.	.	.	.	1	.	.	.	9	10	4	1	25
Glaucoma	<i>m</i>	.	.	.	.	.	.	.	.	.	.	.	1	1	.	.	.	.	.	2
	<i>f</i>	.	.	.	.	.	.	.	.	.	.	.	.	1	.	5	2	3	.	11
Retrolental Fibroplasia	<i>m</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>f</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Others	<i>m</i>	.	.	.	.	.	.	.	.	1	1	.	.	3	.	8	2	2	.	17
	<i>f</i>	.	.	1	.	.	.	.	1	1	.	.	4	.	4	13	11	5	1	41
Total		.	.	1	.	.	.	.	1	2	1	1	5	5	4	38	25	15	4	102

These figures include 21 cases (4 male, 17 female) transferred from the partially sighted register.

Classification according to age (at date of registration) of **partially sighted persons** registered in 1971

		0	1	2	3	4	5-10	11-15	16-20	21-29	30-39	40-49	50-59	60-64	65-69	70-79	80-84	85-89	90+	Total
Cataract	<i>m</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>f</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	2	1	2	1	.	6
Glaucoma	<i>m</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1	1
	<i>f</i>	.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	2	.	1	4
Retrolental Fibroplasia	<i>m</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	<i>f</i>	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Others	<i>m</i>	.	.	.	.	.	.	.	.	1	.	.	1	1	.	1	1	.	.	5
	<i>f</i>	.	.	.	.	.	.	.	.	.	.	.	1	1	1	5	2	1	1	12
Total		.	.	.	.	.	.	.	.	1	.	.	2	3	3	7	7	2	3	28

These figures include 1 male transferred from the blind register.

Follow-up of registered blind and partially sighted persons 1971

1 Number of cases registered during the year in respect of which section (D) of form BD8 recommends:	Cause of disability			
	Cataract	Glaucoma	Retrolental Fibroplasia	Others
a No treatment	18	9	.	45
b Treatment (medical, surgical or optical)	9	5	.	17
2 Number of cases at 1 (b) above which on follow-up action have received treatment:	4	5	.	17

Care of Mothers and Young Children

Care of Mothers and young children

Infant deaths			Legitimate										Illegitimate											
Cause of death			Age at death																				All infant deaths Grand Total	
			Less than 24 hrs		Under 1 week		Under 28 days		1 mth to 1 year		Total deaths		Less than 24 hrs		Under 1 week		Under 28 days		1 mth to 1 year		Total deaths			
m	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f	m	f			
Birth injury, tentorial tear, haemorrhage etc.			3	3	1	.	.	.	.	.	4	3	1	1	.	.	.	.	.	.	1	1	9
Pneumonia, bronchopneumonia tracheo-bronchitis			.	.	.	.	1	.	6	1	7	1	.	.	.	.	.	.	1	.	1	.	9
Anoxia, Asphyxia			3	3	1	.	.	.	.	.	4	3	1	.	.	.	.	.	.	.	1	.	8
Respiratory distress syndrome			1	1	1	1	.	.	.	.	2	2	1	.	1	.	.	.	.	.	2	.	6
Prematurity (including 13 under 28 weeks gestation)			12	7	2	1	.	.	.	.	14	8	4	3	.	.	1	.	.	.	5	3	30
Acute upper respiratory tract infection			.	.	.	.	.	.	9	1	9	1	.	.	.	.	.	.	1	.	1	.	11
Congenital malformations (including spina bifida and heart defects)			3	1	2	3	1	.	5	3	11	7	.	.	.	.	.	.	.	2	.	2	20
Gastroenteritis			.	.	.	.	.	.	1	2	1	2	.	.	.	.	.	.	.	.	.	.	3
Septicaemia and bacteraemia			2	.	2	1	1	1	1	4
Meningitis			.	.	1	.	.	.	1	.	2	.	.	.	.	.	.	.	.	.	.	.	2
Adrenal hypoplasia			.	.	.	.	.	.	1	.	1	.	.	.	.	.	.	.	.	.	.	.	1
Fractured skull			.	.	.	.	.	.	.	1	.	1	.	.	.	.	.	.	.	.	.	.	1
Cardiac failure (during exchange transfusion)			.	.	1	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	1
Congenital cytomegalic inclusion body disease			.	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	1	.	1
Road traffic accident			.	.	.	.	.	.	1	.	1	.	.	.	.	.	.	.	.	.	.	.	1
Ruptured jejunum			.	.	.	.	.	.	.	1	.	1	.	.	.	.	.	.	.	.	.	.	1
Totals			22	15	9	5	2	.	24	11	57	31	7	4	2	.	1	.	3	3	13	7	108	
Sudden unexpected deaths in infancy			.	.	.	1	.	.	12	3	13	3	.	.	.	.	.	.	1	.	1	.	17

Congenital malformations detected at birth – 1971

Live Births

Myelomeningocele ± hydrocephalus	9
Hydroencephalocele	1
Hydrocephalus	1
Anencephalic	1
Down's Syndrome and bilateral talipes	1
Down's Syndrome	1
Extra digits	5
Missing digits	1
Hammer toe	1
Abnormality of left arm	1
Extra digits, large ears, small jaw and palate	1
Talipes	12
Talipes and hypospadias	1
Hypospadias	6
Hypospadias and pilonidal sinus	1
Perineal fistula and imperforate anus	1
Imperforate anus and anal polyp	1
Imperforate anus	1
Abnormal genitals	1
Enlarged liver and spleen	1
Exomphalus (1 umbilical)	2
Hare lip and cleft palate	3
Hare lip	1
Facial palsy	1
Birth mark	1
Osteo-genesis imperfectum	1
Small growth on neck	1
Left pinna and left auditory canal absent	1

Total 59

Stillbirths

Myelomeningocele ± hydrocephalus	5
Anencephalic	2
Anencephaly and exomphalus	1

Total 8

Handicapped children

Observation-Handicap Register

It is now well accepted that there are certain factors, which, should they occur, may cause damage to the young child. These factors may occur either before or after birth or may be due to inherited or acquired conditions. In an attempt to recognise such damage at the earliest possible moment in time and therefore to be in a position to offer support and treatment, a register is kept. This register relates to factors which have a high risk of subsequent handicap. The infant's progress can then be assessed until such time as development can be considered to be progressing normally. If, however, a defect is detected, then the infant's name is transferred to the Handicap Register and the condition tabulated. The child is assessed at regular intervals, and at 2 years a forecast is made regarding the probable education.

During 1971, 864 cases were placed on the Observation Register and 220 on the Handicap Register. This latter figure includes 46 cases which were transferred from the Observation Register.

The number placed on the Observation Register has increased by 90 in the past year. In the case of the Handicap Register, the number placed in the year 1971 has shown an increase from 175 to 220. It is only in a small proportion of these cases that there will be a severe residual handicap but there are continuing indications which point to the inescapable fact that this section of the community is growing. The number of children surviving but having a substantial defect may not be large when considered in isolation but the problem is very different when one begins to consider particular provisions for each individual case. In any one case, for example, a child who is born with a congenital handicap such as spina bifida, it can be reasonably expected that this child will require home nursing, transport, special appliances, housing, special school and finally further training for eventual employment in sheltered in-

dustry. The long term cost in terms of resource needs is therefore considerable.

It is interesting to note that during the past year 11 cases of rickets have been placed on the Register. This condition has not been evident in recent years but is now requiring treatment. Over one third of the cases occurred in children of Asian parents.

Development Clinics

Development Clinics continue to be held at Midland House twice a week.

These sessions provide an opportunity for more detailed observation of the child than is possible at the Child Health Clinics, and also for general discussion between the various persons interested in the child's welfare. In a subsidiary role – but no less important – the clinic is used for parent and staff teaching. During the year 88 sessions were held and 88 children were seen for the first time and 97 for follow-up visits.

Subsequent to the initial assessment at the Development Clinic it may be possible to offer placement for the child at either Parkfield Special Nursery School, Spastic Society Day Nursery or the British Red Cross Creche. When a child is placed at a special nursery the follow-up Development Clinic appointment takes place at the nursery. This allows the parent, teachers, Specialist Health Visitors and Medical Officers to get together for full discussion.

Parkfield Special Nursery was transferred from the Health Department to Education in April 1971. This pilot venture which was started by the Health Department in October 1969 has proved of great value to the assessment process. It has shown repeatedly that a child with a substantial handicap can benefit immeasurably from continued observation and simultaneous stimulation. The nursery provided 20 places for children between the ages of 2 and 5. Since the majority of these places were allocated on a part-time basis of either two or three full days attendance per week, it

enabled a possible 40 children to benefit at any one time. During the first two years – of which the first 18 months were under the aegis of the Health Department – some 43 children were discharged from the nursery.

Of these,

19 were placed at special schools for physically handicapped
 6 at normal schools
 10 at mentally handicapped schools
 5 left the area
 2 were withdrawn by parents
 1 died.

Health Department Medical Officers continue to visit regularly the residential and day nurseries now transferred to the Social Services Department.

Audiology

During the year a day course conducted by Dr Cochrane and Mrs Colledge (Peripatetic Teacher for the Deaf) was held for Health Visitors involved in screening test procedures. The course was repeated to allow 44 Health Visitors to participate.

Some 236 appointments were kept at the Audiology Clinic during the year, of which 159 were new cases and 77 follow-up appointments. The Clinic continues to be staffed by three Senior Health Visitors and two Medical Officers. All personnel have attended courses in Audiology at Manchester University. The Health Visitors give freely of their time to attend the Clinic on a rota system, and their support is greatly appreciated. Mrs Colledge followed up children who attend the Clinic and also supervised auditory training sessions for 15 pre-school children. These sessions took place either at the child's home or in a group situation at Midland House. Mrs Colledge also visited the Special Nursery schools where children with impaired hearing are placed, to train the children and give supportive help to the staff.

Table of Handicaps in pre-school children 1971

<i>Year of birth</i>	1967	1968	1969	1970	1961	<i>Total</i>
Neural Tube Defects	7	5	8	10	6	36
Severely subnormal	5	10	14	6	2	37
E.S.N. and Mongol	8	11	8	9	4	40
Psych. and Maladj.	1	.	.	.	.	1
Epilepsy	13	11	10	8	1	43
Blind	.	2	3	.	.	5
Partially sighted	2	5	3	.	.	10
Deaf	3	1	9	1	.	14
Partially hearing	3	.	.	.	1	4
Cardiovascular	9	18	15	17	9	68
Asthma	14	6	2	5	.	27
Fibrocystic	3	2	4	.	.	9
Other respiratory disease	1	.	.	1	.	2
Endocrine and Metabolic	9	8	11	11	1	40
Speech, Language disorders and Cleft palate	3	5	5	6	3	22
Urogenital system	6	5	7	9	7	34
Cerebral palsy	5	7	12	7	.	31
Orthopaedic & locomotion	16	21	21	20	7	85
Miscellaneous	7	2	7	4	3	23
Total						531

The table of Handicapped Preschool Children indicates the types and numbers of cases likely to be occurring at school. This is substantially less than those originally placed on the Handicap Register. The reason for this is that some will have died, some moved away and some been successfully treated. It is hoped that the computer system now being developed will enable a more detailed analysis to be undertaken that facilitates accurate planning of special school places.

Abortion

Table 1

	1969	1970
Single	99	221
Married	66	134
Unspecified	19	46
	184	401

It is now possible to make the first comparison of annual abortion figures since the Abortion Act came into force. As expected the number of legal abortions have increased. The number of single women have increased by 130% and abortions for married women have doubled compared with the previous year. These figures cannot be lightly dismissed and it is necessary to examine a number of factors.

Table 2

	1969	1970	Increase
Under 16	11	14	3
16 - 19	39	96	57
20 - 34	99	234	135
35 - 44	29	54	25
45 +	2	2	
Not stated	4	1	

Under 16 years of age

How did these children become exposed to the risk of pregnancy? What was their social education and psychological background? Did they at the same time run the risk of, or contract, venereal disease?

It may be considered that 14 pregnant girls under the age of 16 in the city of the size of Leicester is not unexpected but should this prevalence be accepted? Before condemning the teen-agers can the community be exonerated from all responsibility? Have adequate opportunities been provided not only to impart information on the mechanics of sex but also to teach a full appreciation of the responsibilities devolving on those participating in sexual intercourse.

16-19 year olds

Past moral values and conventions are not necessarily acceptable to the new generation. Instead of Victorian pontification, would active measures be better to try and

prevent the misfortune of an unwanted pregnancy by making advice on contraception and facilities readily available? The chance of contracting venereal disease must also be brought to the attention of those at high risk.

Place of Operation

Table 3

	Leicester C.B.		Outside C.B.	
	N.H.S. Hospital	Other abortion clinic	N.H.S. Hospital	Other abortion clinic
1970	84	.	6	311

It is particularly disturbing to note that local facilities are so inadequate that 3 times as many women had to resort to areas outside Leicester to obtain help and advice. Even if they did obtain an abortion one wonders how many were provided with the essential after-care that was necessary. Secondly how many women had to face the decision on their own of whether to continue with the pregnancy or to resort to a criminal abortion, because of inability to obtain help and advice locally?

The fact that an abortion is necessary is an indication of failure, perhaps failure in education, perhaps failure to accept responsibility, perhaps failure to provide a secure environment for those at risk. Table 3 is particularly disquieting for it shows that three times as many women obtain their abortion outside the Leicester City area. This inevitably creates difficulties in maintaining good communication between private clinics, perhaps many miles away from the general practitioners. Furthermore one must consider the risk to which the woman is exposed on returning to Leicester after an abortion when she may not be fit to travel, secondly there is the risk of inadequate follow-up--the operation may have been a success in so far as it has removed a foetus but what damage was caused to the girl, medically or psychologically? What action has been taken to prevent a recurrence?

Complications of Abortion

In the case of criminal abortion the risks of perforation and sepsis are high, but even under good conditions it must be recognised that the operation carries risks thus:

1 : 5 patients will lose a pint or more of blood

1 : 10 will require a transfusion

1 : 20 suffer damage to the uterus which includes perforation of the uterus.

Illegitimacy

Total number of Illegitimate Births registered during 1971 **685**

Number of City Illegitimate births **522**

Number of County Illegitimate Births **163**

City Illegitimate Births in age groups

<i>Years</i>	14	3
	15	9
	16	31
	17	53
	18	45
	19	33
	20	32
	over 20	316

During the course of the year 595 illegitimate children were born in the city and at the time of writing this report an account has been published of the costs and benefits of family planning. In this review by P.E.P. (Political and Economic Planning) an independent and non-party organisation, figures are quoted for the cost annually of each illegitimate pregnancy.

Although the cost of preventing such births would work out at approximately £34 per year, that is, providing the facilities for family planning services, paying the staff and doctors and the cost of supplies, failure to prevent a birth may result in the cost to the community of over £4,000 per unwanted child.

For example,

- (1) the illegitimate child has a 50% chance of being supported by supplementary benefits throughout its childhood.
- (2) He will use $4\frac{1}{2}$ times the child-care resources consumed by the average child.
- (3) He is twice as likely to be in temporary accommodation for the homeless.

Some of the additional factors noted in the P.E.P. Report are perhaps surprising. Thus the father of 4 children takes 1.3 times as many days of sickness absence than the father of 3 children. Furthermore one half of the unmarried women with children depend upon supplementary benefits and that the child of a one parent family is likely to use nine times as much in child care resources as the average child.

Diocese of Leicester Council for Social Work

Analysis of work done in 1971

*Casework figures
1971*

	<i>City</i>	<i>County</i>	<i>Total</i>
<i>Short-term advice and enquiries</i>	86	33	119
<i>Long-term cases registered</i>			
pregnancies	130	86	216
other problems	21	11	32
Total	237	130	367

<i>1970 and previous years still active</i>			
pregnancies	34	28	62
other problems	55	30	85
Total caseload	326	188	514

<i>Babies born</i>			
1970 cases	31	**26	**57
1971 cases	97	68	165
Total	128	**94	**222

With mother in parental home } With mother in own home } With mother in lodgings }	87	*54	*141
With parents married	3	.	3
In temporary foster home	2	3	5
In Local Authority care	2	1	3
Placed with adopting parents	31	*33	*64
Stillborn	1	2	3
Died	2	1	3
Miscarriage	1	.	1
Referred on or lost trace	1	6	7
Unborn 31.12.71	31	14	45
Babies fostered during the year	41	42	83
Mother and Baby Home admissions	5	7	12
Grant-aid to fees from Trusts and L.A.	12	3	15
Putative fathers interviewed	71	39	110
			21

Adoption

Adopters' Enquiries	586
Applications investigated (2 refused)	100
Babies offered for adoption	**119
Withdrawn by mother before placement	6
Placed with prospective adopters (incl. 4 from 1970 and 40 from Peterborough Diocese)	**108
Withdrawn by mother after placement	4
Withdrawn at adopters' request	1
Placement delayed (medical grounds)	.
Awaiting placement 31.12.71	6
Adoption Orders made	**104

* = twins)

** = 2 sets of twins

Age Groups		City	County
Natural Mothers	Under 17	29	16
	17 - 20	58	44
	21 - 30	33	21
	31 plus	10	5
Natural Fathers	Under 17	17	6
	17 - 20	42	37
	21 - 30	46	22
	31 plus	10	10
	Not known	15	11
Natural Mother's Status	Single	106	75
	Married	5	4
	Separated	15	5
	Divorced	2	2
	Widowed	2	.
Natural Father's Status	Single	71	51
	Married	26	10
	Separated	18	12
	Widowed-Divorced	6	4
	Not known	9	9

Adoptions 1971

Babies placed include 2 sets of twins, i.e. 108 placements, 110 babies

<i>Normal Domicile</i>	<i>Natural mothers</i>	<i>Adopters</i>	
	Leicester	32	15
	Leicestershire	34	68
	Northampton	10	4
	Northamptonshire	16	13
	Peterborough	7	6
	Rutland	4	2
Cambs/Newcastle/Belfast/Hereford/Dumfries	5	.	

Dental Report for 1971

R. H. Bettles, BDS, DDH, U Birm, LDS, DDPH, RCS Eng.

Maternity and Child Welfare

This year has seen another increase in the amount of dental treatment provided for preschool children with a decrease in that sought by expectant and nursing mothers. Overall an increased amount of work has resulted from a similar number of treatment sessions as in the previous year. This part of the activities of the local authority dental service still represents only a small proportion of its work (about 4%), though many children attending nursery classes of schools are included in the school children statistics which appear in the Annual Report of the Principal School Medical Officer.

Efforts are being continued to influence the mothers of young children to seek dental treatment for their offspring from an early age, and this year has seen a rather higher number of requests to supply speakers to a variety of interest groups for young mothers, guides, parent teacher associations and the like. These requests are always welcomed and, it is hoped in the long term, will increase the tendency to bring children to our clinics, or to visit general dental service practitioners from the age of about 3 years.

The special schools that formerly were covered in this report have now been transferred to the Education Department, though the work of the dental service has continued on exactly the same lines as before, all these schools receiving a dental inspection during the year.

Dental Services for Expectant and Nursing Mothers and Children under 5 years

Attendances and Treatment

Number of Visits for Treatment during year	Children 0-4 (incl.)	Expectant and nursing mothers
First visit	344	57
Subsequent visits	479	206
Total visits	823	263
Number of additional courses of treatment other than the first course commenced during year	19	14
Treatment provided during the year:		
Number of fillings	740	185
Teeth filled	592	154
Teeth extracted	434	170
General anaesthetics given	145	14
Emergency visits by patients	88	3
Patients X-rayed	9	12
Patients treated by scaling and/or removal of stains from the teeth (Prophylaxis)	79	37
Teeth otherwise conserved	82	.
Teeth root filled	.	1
Inlays	.	.
Crowns	.	.
Number of courses of treatment completed during the year	249	32

Prosthetics

Patients supplied with F.U. or F.L. (First time)	8
Patients supplied with other dentures	8
Number of dentures supplied	23

Anaesthetics

General anaesthetics administered by dental officers	2
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Inspections

Number of patients given first inspections during year	558	67
Number of patients who required treatment	324	64
Number of patients who were offered treatment	318	63
Number of patients re-inspected during year	72	14

Sessions

Number of Dental Officer Sessions (i.e. equivalent complete half days) devoted to Maternity and Child Welfare Patients:	
For treatment	187
For Health Education	37

Nursing Services

Report for the year 1971

Miss Jane I. Jones, S.R.N., S.C.M., Q.N.S., H.V.,

H.V. Tutor's Cert.

Chief Administrative Nursing Officer

Midwifery

The decline in the domiciliary confinements continued in 1971 representing 16.86% of the total births. Amongst the mothers delivered in hospital 11.9% were discharged within 48 hours and 35.1% within 5 days of delivery.

Midwifery

Notification of intention to practice 163

Of the above:

Domiciliary Midwives	31
Employed in private nursing homes	8
Emergency notifications (Part III)	2
Employed in Maternity Hospitals	122

Ante-Natal Clinics

	No. of sessions	1st visit	Re-visits	Total
1971	201	386	957	1343
1970	201	671	1387	2058

Midwives and General Practitioner/Obstetricians

The following figures show the distribution of work between the domiciliary midwives in relation to the 804 deliveries attended during 1971.

Deliveries attended by a midwife

a	i	Doctor not booked, but present	1
	ii	Doctor not booked, not present	12
b	i	Doctor booked, and present	35
	ii	Doctor booked, not present	756

Total 804

Application for maternity beds in hospital on sociological grounds

Total number of applicants	1655
Number recommended	1318

94.5% of those recommended were accepted for hospital confinement.

Waiting List

In all, 58 patients were originally placed on the waiting list. Of these:

24 patients obtained a hospital booking before delivery date.

20 patients were admitted as 'Social emergencies'.

13 patients were delivered by a domiciliary midwife at home.

1 patient moved from the area.

Flying Squad

This was called twice by a doctor and both these cases were transferred to hospital.

Patients confined in hospital

The planned early discharge scheme continued as before. The midwife saw the patient twice in the ante-natal period and in each case visited the mother and baby until the 10th day before passing her over to the care of the health visitor.

Summary of hospital discharges

Day of discharge	1	2	3	4	5	6	7	8	9	Total
Number of patients	51	423	587	180	156	321	1117	182	158	3175
16,252 visits were paid to 3,175 patients before the 10th day.										

Maternal deaths

Five maternal deaths occurred in the city during 1971:

- 1 I(a) Subarachnoid haemorrhage
- II Viral encephalitis
- 2 Septic abortion
- 3 I(a) Subarachnoid haemorrhage
- (b) Bronchopneumonia
- 4 I(a) Cardiac arrest (Hyperkalamia)
- (b) Vomiting and pulmonary collapse
- (c) Left diaphragmatic eventration (with pregnancy)
- 5 B Welchii septicaemia due to septic abortion.

Staffing

The approved establishment remained at 39. At the end of 1971 there were 21 full-time and 7 part-time midwives in post. There were three appointments of full-time midwives and one part-time midwife. Four midwives left the service and

one retired from full-time work and became a part-time midwife.

Summary of work done by domiciliary midwives

Staff	Cases attended	Ante Natal	<i>Visits</i>		Socio-logical	Total visits
			Post Natal			
Full Time	795	13711	26767		2668	43941
Part Time	9	1254	4308		805	6376
Totals	804	14965	31075		3473	50317

Domiciliary confinements decreased once more by 102 during 1971 and sociological visits decreased by 711.

Training of pupil midwives

During 1971 52 pupil midwives received domiciliary training with an approved teaching midwife.

Obstetric Nurses

Twenty-nine nurses doing the Obstetric Nurse Training Course at Leicester Royal Infirmary Maternity Hospital spent a day on the district with a midwife to gain an insight into domiciliary midwifery.

Confinements and visiting

Year	Place of Birth		Total	+	Early discharge patients	+	Early discharge visits	+	Total visits
	Hospital	Domiciliary							
1967	3872	1451	5323	+ 142	2831	+ 733	13924	+ 1965	62224
1968	3998	1223	5221	— 102	3106	+ 275	16452	+ 2528	60294
1969	4124	1053	5177	— 44	3236	+ 130	17683	+ 1231	55995
1970	4011	914	4925	— 252	3262	+ 26	18668	+ 985	54506
1971	3980	807	4787	— 138	3175	— 87	16252	— 2416	49513

Maternities and Neo-Natal deaths

	1969	1970	1971
Live births notified under Public Health Act, 1936	5101	4865	4756
Stillbirths notified under Public Health Act, 1936	76	59	62
*Immigrant live births	995	1079	965
Immigrant still births	19	12	21
*Immigrant live births as % of total live births	19.5	22.17	20.29
% sociological bookings	45.3	49.1	23.5
Immigrant stillbirths as % of immigrant total births	1.7	1.11	2.13
Immigrant first week deaths as % of immigrant total births	1.3	0.6	0.6

*The immigrant figures are based on the surnames on birth notifications etc. and are approximate figures only.

Health Visiting

The continued shortage of health visitors has in no way diminished their performance in terms of visiting during the past year.

General practitioner attachment is now the rule and the pattern of work is changing slowly. This year there has been an increase in the visits made to the elderly.

The second phase of clerical assistance to health visitors was introduced into Central Division in June 1970 with few problems. The experience gained from the pilot scheme in Belgrave Division the previous year was of value in preventing difficulties. Staff were instructed in the use of pocket tape recorders and once they had gained confidence the extension of the scheme was successfully achieved. The final phase of audio/typist support for health visiting staff will be introduced in May 1972 to West End Division.

Specialist Health Visitor Service

A Specialist Health Visitor for Venereal Disease was appointed in November 1971 and attached to the special Clinic at the Leicester Royal Infirmary. Although the emphasis of this work must be on following up defaulters and contact tracing, valuable counselling had been given to the clinic attenders.

Child Health Clinics

Attendances by children

	Attendances	Sessions
1970	77811	1642
1971	74811	1549

Health Education

The main health influences in the lives of us all are derived in childhood from home and family. As we grow older friends at school and at work and the mass media are an important influence. In quantity the health education planned and provided by professional health educators is the least to which the public is exposed. It must, therefore, be the richest in quality. To this end no short cuts have been taken in the thorough preparation of staff for group teaching in schools and in clinics. Full use has been made of our resources. But, as previously, our staff who have learned how to teach have taught for a spell and then we have lost them to marriage or promotion.

The personal one-to-one teaching in homes, clinics and surgeries by doctors, health visitors and school nurses, district nurses and midwives, and also by the public health inspectors in the environmental field, forms the bulk of the health education and is all supported by information and teaching aids from the health education department.

Teaching has been concentrated where we believe it will be most productive; in schools, to expectant parents and in the cytology clinics.

Schools

With the co-operation and interest of Head Teachers and staff, teaching on personal health, child care and community health has been carried out by Health Department staff throughout the year in the majority of the secondary modern schools in the city. This has augmented the teaching by school staff throughout the curriculum and that done by doctors and nurses when they see the boys and girls individually in schools.

Teaching is mainly to the fourth year pupils. Courses vary in length from a whole year to a few weeks. Repeated visits to some schools are needed during the week to cover all the classes.

Special efforts this year have been made in class teach-

ing to inform and influence children on such social problems as smoking, the sexually transmitted diseases and the misuse of drugs.

Health teaching is done in special schools and an increasing (but limited) amount in the grammar schools.

Antenatal classes

The teaching of expectant mothers is given high priority in the health education programme. Specially trained midwives and health visitors teach mothercraft and the physical and psychological preparation for labour. Our aim is that mothers shall be well informed and confident; that labour will be shorter and easier because of the instruction; that the mother shall carry the confidence forward into the initial care of her baby. Family planning advice is incorporated. About 400 mothers attended classes.

Adopting parents

Three courses only were necessary during the year. Fewer babies are available for adopting. The classes were designed to give the parents help and confidence in the initial care of their babies.

Cytology clinics

The teaching that could lead to early detection of breast cancer has continued. Nearly all women who attend at the Health Department for the cervical smear test are instructed, by means of a one minute film, on regular self-examination of the breasts. About 1,040 women were thus instructed this year. Facilities have been provided for the instruction of women at two large organisations in the city. Many leaflets have been distributed.

Child health centres

Here the teaching is all at the moment on a personal one-to-one basis. Health visitors, in their role as health educators, counsel and guide the mothers. Young mothers

now coming to antenatal classes and to child centres are often the ones who have had mothercraft in schools.

Family planning

More and more teaching has been done on this subject and Head Teachers have given us the opportunity to include it in our school courses. Evidence is available that pregnancy in teenage (with or without marriage) puts the young mother at a greater risk physically, emotionally and socially than her older counterpart and that the welfare of her baby will also be in danger.

Smoking and health, sexually transmitted disease, misuse of drugs

Efforts have been made to influence and inform children and the public on these matters. All requests for information and reading material were met. Lectures, films and discussions have been given in places of work, in a working men's club, to women's organisations and in Colleges of Further Education. Some hundreds of teachers attended two conferences on the sexually transmitted diseases.

Miscellaneous health education

Nearly 400 requests were received for information and teaching material. Full use has been made of opportunities for teaching by leaflets and posters. Participation has continued in the training programmes of student teachers, student hospital nurses, student health visitors and district nurses, pupil midwives, home help trainees and youth leaders. All requests for talks to outside organisations have been met.

Asian community

We now have a wide range of leaflets in the Asian languages. They have been requested for distribution nationally. Advice and teaching material have been given to many factories and other places of work concerning the health and hygiene of Asian girls.

Health Visiting		1971		1970	
		H/V's	CN/A's	H/V's	CN/A's
	Number of first visits to children born 1971	4710	.	5020	.
	Number of re-visits to children born 1971	11541	66	10713	85
	Number of visits to children born 1967/70	37627	272	36674	493
	Number of first visits to ante-natal cases	625	.	636	.
	Number of other visits to ante-natal cases	462	2	415	.
	Number of visits to tuberculosis patients	1244	437	1327	718
	Number of visits re tuberculin test reading and B C G follow up	10	49	14	43
	Number of visits concerning Infant deaths	27	.	55	.
	Number of visits concerning after-care	724	56	780	38
	Number of visits to diabetic patients	3247	.	2252	.
	Number of visits concerning applications for convalescent home accommodations	123	5	231	27
	Number of visits concerning infectious diseases	52	11	89	51
	Number of visits concerning problem families	1674	1	1589	11
	Number of visits concerning re-housing	168	.	274	.
	Number of other visits (*see separate list)	5476	1475	5540	1413
	Number of no access visits	16455	1458	15153	1416
	Number of visits to persons over 65 yrs	4100	964	2696	1686
	Number of visits re chiropody (excluding age 65 and over)	18	2	26	42
	Totals	88283	4798	83484	6023

*Number of other visits:

	Visits to Child minders	604	.	1976	6
	Visits to mentally disordered persons	1198	.	990	7
	Visits to other discharges from hospital	78	4	60	.
	Other visits	3596	1471	2514	1400
	Totals	5476	1475	5540	1413

Attendances at clinics and other sessions

	1971		1970	
	H/V's	CN/A's	H/V's	CN/A's
Child Health Clinics	2445½	3188	2706	3333
Ante-Natal Clinics	.	39½	.	44
Development Clinics	65	.	86	.
Mothercraft and Health Education (Schools)	133½	182	128½	60
All sessions in school (not incl. above)	138	5601	316¾	4315½
Immunisation and Vaccination clinics	130½	333½	49	135
Screening Tests and Audiology clinics	203¾	319	295¼	391
Hospital sessions	619	11	703¾	1
Parentcraft sessions	125	21	153	62½
Any other clinics	121	3195½	194¾	2347
Clerical sessions	2447¼	445	2823¼	710½
All other sessions	13216½	3926	13519½	3359
Totals	19645	17261½	20975¾	14579

Summary of Nursing Statistics

TABLE A

	1971	1970	Differences from 1970	
Number of Cases treated at home by day	6765	6532	+ 233	+ 3.6%
Number included above who are also treated by night	208	275	— 67	— 2.4%
Number treated at Centre	416	418	— 2	— 0.0%
Number treated at G.P. Surgery	12997	9359	+ 3638	+ 38.9%
Total Cases treated	20178	16309	+ 3869	+ 23.7%

Visits and Treatments Undertaken

TABLE B

Number of domiciliary visits by day	168220	161559	+6488	+ 3·9%
Number of treatments at Centre	5062	5235		
Number of domiciliary visits by night	8476	8671	— 195	— 2·3%
Number of treatments at G.P. Surgery	22300	18621	+3679	+19·8%
Total	204058	194086	+9972	+5·14%

Visits according to Nursing Centre

Table C

	1971	1970	1969	1968	1967		
Central	51704	42699	47269	52138	51236	+ 9005	+ 21·0%
Belgrave	53126	53041	48221	47755	45071	+ 85	+ 0·1%
West End	68452	71054	66515	70447	69647	— 2602	— 3·1%
Night Visits included in above	8476	8671	8674	8969	8426	— 195	— 2·2%

Age Distribution of Cases at all Centres

Table D

[illegible]

Age distribution of Cases

Table E		Under 1 year	1-4	5-14	15-64	65-74	75+	Total
	Belgrave							
	Treated at home by day	25	89	118	734	425	715	2106
	Treated at home by night	.	1	1	16	11	15	44
	Centre	.	4	15	95	18	1	133
	Central							
	Treated at home by day	23	61	81	668	465	768	2066
	Treated at home by night	.	.	1	21	17	44	83
	Centre	2	8	12	222	27	12	283
	West End							
	Treated at home by day	31	100	144	897	627	794	2593
	Treated at home by night	.	.	.	24	26	31	81
	Centre	.	.	.	.	.	.	.

Number of Patients treated at Home, by duration of treatment

Table F			Under 2 wks	2 wks-1 mth	1-3 mths	Over 3 mths		
			1971	1970	1971	1970	1971	1970
	Under 65	<i>m</i>	881		294		226	203
	65-74		215		104		111	200
	75+		203		95		117	243
	Totals		1299	1325	493	492	454	426
	Under 65	<i>f</i>	807		329		275	314
	65-74		206		118		191	417
	75+		354		226		270	782
	Totals		1367	1408	673	644	736	639
	Grand Totals		2666	2733	1166	1136	1190	1065
							2159	2016

Patients aged 65 and over

Table G		1971	1970	1969	1968	1967
	Number of male patients over 65	1288	1257	1031	1175	993
	Number of female patients over 65	2564	2497	2238	2088	2070
	Total	3852	3754	3269	3263	3063
	Number of visits	120113	117440	114603	116787	114973

Table H		65-74	75+
	Number of patients	<i>m</i> 630	658
		<i>f</i> 932	1632
	Number of day visits	44681	72120
	Number of night visits	1358	1954

Distribution by Disease (Main diseases nursed)

Table I	Male Total	—65	65-74	75+	Died	Visits	Female Total	—65	65-74	75+	Died	Visits	
Cancer	242	82	96	64	138	7686	256	100	82	74	96	9034	
Other Tumours	55	44	9	2	.	429	151	129	16	6	2	1022	
Tuberculosis	56	50	4	2	.	1963	68	67	1	.	.	2324	
Bronchitis/other respiratory diseases	216	115	55	46	24	4516	209	93	42	74	18	3410	
Diabetes	67	31	18	18	6	4397	81	30	20	31	4	13378	
Anaemia	156	47	55	54	9	2284	474	172	124	178	12	9262	
Cardiac	146	27	41	78	43	3870	228	31	50	147	47	7277	
Digestive inc. Hernia	483	389	57	37	3	4514	363	205	50	108	9	4291	
Cerebrovascular	275	67	111	97	68	12919	367	61	121	185	75	16300	
Arthritis + Rheumatism	46	10	16	20	7	1150	290	73	90	127	15	12646	
Generative organs, inc. circumcision	335	259	40	36	6	2814	316	131	67	118	11	2580	
Diseases of Ear and Eye	42	26	5	11	2	318	38	15	3	20	2	1644	
Senility	71	1	10	60	22	2207	188	2	20	166	26	6716	
Skin disease and cellular tissues	243	150	42	51	6	5691	387	167	83	137	8	11631	
Total						54758	Total						101515
Others	459	Male				7518							
	873	Female				17967							

Home Circumstances of Patients

Table J	—65		65—74		75+	
	<i>m</i>	<i>f</i>	<i>m</i>	<i>f</i>	<i>m</i>	<i>f</i>
Living alone	12	37	28	99	38	203
Housebound	444	543	267	457	341	902
Bedbound	136	143	155	146	178	373

Registration of Nursing Homes

		1971	Number of beds provided		
	Number of Homes		Maternity	Others	Total
Homes registered during year	-	-	-	-	-
Registrations withdrawn during year	-	-	-	-	-
Homes on register at end of year	10	18	256		274

	No. of beds
Ava Nursing Home	18
Central Nursing Home	16
Dane Hills Convent	48
Fernleigh Nursing Home	38
Leicester Clinic	32
St. Francis Private Nursing Home	24 + 18 Maternity
St. Benet's Nursing Home	21
Sundial Nursing Home	22
The Lawn Nursing Home	25
University Medical Centre	12

Registration of Nursing Agencies

Agencies registered during the year	Nil
Agencies on register at the end of year	3

Domestic Renal Haemodialysis for End Stage Chronic Kidney Disease

In August 1971 the second patient in Leicester was provided with facilities for home dialysis.

It has been accepted that this local authority will make structural provision under section 12 of the Health Services and Public Health Act 1968 to accommodate home dialysis equipment.

The arrangements for the installation of a kidney machine are co-ordinated by a Nursing Officer and a Public Health Inspector in consultation with the Hospital Renal Unit.

A Health Visitor maintains regular contact with the patient to give social support and provide liaison links with the General Practitioner and the Hospital Renal Unit who are responsible for the dialysis procedure.

Various possibilities for housing a home kidney unit were investigated and it was decided that a portable relocatable building, sited at the rear of the house would provide the most satisfactory environment for the patient who is dependant on an artificial kidney machine.

The advantages of a portable unit are:

- 1 The entire unit and its internal services are portable and relocatable.
- 2 In many instances this unit will provide more space.
- 3 It lends itself to the ideal lay-out and better clinical conditions.
- 4 The unit remains the property of the Local Authority. If the patient discontinues treatment (e.g. through transplantation of Kidney), it can easily be separated from the external services and transported to another address.
- 5 There is less interruption to the routine of the home and so less harmful stress to the patient and his family.
- 6 If properly sited there is a more pleasant environment for the patient who has to spend 40—45 hours per week in the dialysis room.

Regular dialysis treatment is often given overnight—so

that the patient can work during the day—preferably carried out in three ten-hour sessions per week.

This is a highly successful form of treatment and the number of patients selected for dialysis therapy is likely to increase due to:

- 1 An improved survival rate.
- 2 A more flexible selection policy.
- 3 The use of dialysis to complement kidney transplantation.
- 4 The availability of hospital training and supporting beds.

Leicester will have a ten-bedded renal unit at the Leicester General Hospital in operation in 1974.



Renal Dialysis



Renal Dialysis

Domiciliary care of paraplegics

In July 1971 a survey was carried out of the paraplegic patients receiving domiciliary nursing care in the County Borough. The findings of this survey as well as being of interest from a medical point of view also reflect the substantial nursing and social problems that arise amongst the patients and their families.

Age and sex distribution

	25	30	35	40	45	50	55	60	65+
Male	2	1	2	1	.	.	1	2	1
Female	.	.	.	.	1	2	1	.	.

Aetiology

Polio	2
R.T.A.	3
Industrial accident	1
Virus infection	1
Cancer	2
Multiple sclerosis	5
	14

Visits

	No. of patients	Frequency of visits	Total visits per week
	2	2 x daily	28
	7	Daily	7
	1	4 x week	4
	2	3 x week	6
	1	2 x week	2
	1	Weekly	1
		excluding night visits	48

Period over which nursed

Months		Years				
—6	—18	—2	—5	—7	—10	—20
2	3	2	2	3	1	1

Special equipment

Wheelchairs	14
Hoists	6
Ripple beds	3

Comments

These patients require extensive care provided both by relatives and the Nursing Services. There is the constant threat of breakdown of the skin surfaces and respiratory or urinary infection. At the time of writing this report (February 1972—during the Coal Strike) other risks in connection with these patients are predominant, for they are particularly susceptible to hypothermia and yet because of their lack of feeling in their limbs are unable to give warning of the symptoms. Similarly, because of the failure of the power supply it has been impossible to maintain the constant functioning of ripple beds. (In addition to the paraplegics there are at least 40 other patients using ripple beds in the City who are similarly affected).

Each patient requires skilled nursing care and in the majority of cases each visit of necessity is of long duration. Care of the chronic sick, particularly the young chronic sick is gradually becoming recognised as one of the neglected areas. If these patients do survive it is of the utmost importance to ensure that the quality of life that they can maintain is tolerable. They may be handicapped but they should not be discarded.

As can be seen from the Tables some patients survive for a very long time and this inevitably necessitates social and psychological support for the families as well as the patient. In addition to the problem of constant laundering and the necessity to endeavour to maintain morale, the families are often faced with substantial financial difficulties.

Training School Report District Nurse Training School

State Registered Nurses Course in preparation for the National Certificate of District Nursing

Five students commenced training in September 1970, in preparation for the examination held in January 1971. All the nurses were successful.

Five students commenced training in January 1971 in preparation for the examination held in May 1971. All the nurses were successful.

Eight students commenced training in September 1971 in preparation for the examination to be held in January 1972.

Students were seconded by this Authority, Northampton County Borough and Warwickshire County Council.

State Enrolled Nurse's Course in preparation for the National Certificate of District Nursing (SEN)

Four nurses successfully completed the course in May 1971.

Four nurses commenced training in November 1971 in preparation for the examination to be held in January 1972.

Leicester Royal Infirmary Integrated Course for Pupil Nurses

29 pupils spent 2 days on the district during Introductory Blocks.

28 pupils spent 2 weeks on the district at the end of the first year of training.

Eight pupils completed 6 weeks District Nurse Training and seven were successful in the National Examination for District Nurse Training (S.E.N.) held in May 1971.

In-Service Training

A Clinical refresher course was commenced in October and completed in March 1971. Lectures covered a number of specialities and the attendance at each session remained fairly constant at 100. The staff benefited from the opportu-

nity to meet and exchange ideas with colleagues in medical, nursing and allied professions. The total hours of the course was the equivalent of a 2 weeks refresher course.

Course for District Nurse Practical Instructors

This was the second 6 day course organised by this authority to help district nursing sisters in their ever increasing role as practical work instructors. It was apparent by the response to the course advertisements that there is a tremendous need for help and guidance for nurses who undertake practical teaching duties in the field.

Number of places limited to 25.

Seconding authorities

This Authority	11
Cambridge & Isle of Ely County Council	1
Doncaster County Borough	2
Derby County Borough	2
Leicestershire County Council	6
Northamptonshire County Council	2

Course for Nursing Auxiliaries

10 Nursing Auxiliaries attended a one week course in June 1971. A follow up study day was arranged in September.

Visitors to the Unit

Miss Stoba, Health Visitor Tutor Student, Bolton, for teaching practice.

Miss Coe, Clinical Teachers Course, Birmingham—observation of district nurse training and field work.

District Nurse Training Panel

Met in January and July, 1971.

Subjects under discussion and review:

"Community Care Option" G.N.C. 1969 revised
Syllabus of training.

General Practice Placements for S.R.N. student district nurses.

National Examination for District Nurse Training—S.R.N. and S.E.N. Group School project.

New Developments

Classroom, library and dining room facilities were now provided at the Leicester Royal Infirmary School of Nursing, for State Registered, and State Enrolled District Nurse Students.

Discussion on the Group School Project to be housed at Brookfield has taken place between:

- 1 Representatives from the Regional Hospital Board
- 2 Leicester No. 1 Hospital Management Committee
- 3 Principal Tutors of the Leicester Royal Infirmary and Leicester General Hospital Schools of Nursing
- 4 Medical Officers of Health for Leicester City and Leicestershire
- 5 Public Health Tutor, Leicester City and Nursing Officer, Leicestershire.

Compulsory removal

Court orders under Section 47 of the National Assistance Act were required for three people, two aged men whose physical and mental condition made it impossible for them to be nursed in their home and who refused care elsewhere. One of these subsequently improved with proper attention and was later able to return home. One younger man suffering from grave terminal illness also required removal to hospital.

Chiropody Service

The scheme is provided for pensioners and certain handicapped persons through local chiropodists. An assessment is made in each case to determine need.

The number of treatments given continued to rise in 1971 and the number of patients on the books at 31st December rose from 2,078 in 1970 to 2,664 in 1971.

	1971	1970	1969	1968
New cases, domiciliary	260	247	263	294
Domiciliary treatments	6591	6176	6040	5281
New cases, other	299	275	254	268
Other treatments	6652	5823	5561	4944

Laundry Service

Following discussions with the W.R.V.S. it was agreed that the Health Department would be responsible for the administration and provision of the Laundry Service with effect from 21st June, 1971. It is anticipated that because of greater life expectancy and failing health in old age, that increasing demands will be made upon this most reliable service.

The provision of the Laundry Service and the co-operation of the W.R.V.S. during the change-over period is greatly appreciated.

Domiciliary Laundry Service	1971	1970
Number of cases brought forward	86	109
New cases	222	309

Cases removed from register

Died	90	154
Transferred to Hospital	55	72
Service no longer required	23	64

Dressings Disposal Service 1971

Number of cases brought forward	56
New cases	79

Cases removed from register

Died	26
Transferred to Hospital	14
Service no longer required	11

Medical Equipment Loan

The responsibility for organising and maintaining the loan of medical equipment is delegated to the British Red Cross Society, Mrs Ann Crumie, Assistant Branch Director, Medical Loan Section, reports as follows.

"At the beginning of the year the Medical Loan Section moved into new Headquarters at 157-159 Cavendish Road.

The extra space available has made it possible to cope with the large increase in work which developed during the year. The Centre is on three bus routes and much more accessible to the more highly densely populated areas.

The permanent display and training unit, one of the features of the new Headquarters, has greatly helped our work with the District Nurses. Demonstrations of the use of hydraulic hoists and the opportunity to show nursing aids has been greatly facilitated. We suspect that the Group Attachments of the District Nurses is helping the General Practitioners to realise the scope of our work and that this is one of the contributory factors of the increase.

We are most grateful for the close co-operation which exists between the Department and all the staff at the Health Department.

Total Issues to both City & County

1966	1967	1968	1969	1970	1971
9,619	10,623	11,691	13,663	16,398	20,005

City Ambulance Service

Report for the year 1971

J. McCafferty, AIAO, Chief Ambulance Officer

Calls

During the year 1971, Ambulance vehicles travelled 461,864 miles and carried 130,076 patients. There was an overall increase of 2,932 patients conveyed and of these 2,228 were walking cases. The mileage was reduced by 3,134 miles, and the miles per patient by 0.11 from 3.66 to 3.55 miles. The reduction was effected by introducing fixed zones for collecting patients for Leicester General Hospital, The Towers Hospital and Carlton Hayes Hospital. This pattern of one vehicle going into a fixed area and collecting the same number of patients daily, not only saved mileage but also the controller's time as master sheets were prepared to cover the whole week.

New appointment

A post of Hospital Liaison Officer was created in 1971 to be responsible for co-ordinating ambulance requests for both the City and the County Ambulance Services and it is hoped that with a full-time Ambulance Officer in post at the Infirmary that eventually the number of abortive journeys will be reduced. One of his main tasks is to ensure that all departments are aware of the need for special vehicles to be operating from the hospitals for the sole purpose of taking out-patients home.

New Vehicles

The replacement vehicles mentioned in the 1970 report arrived in February, 1971 and were well received by the staff. A notable feature was the automatic drive, soft suspension and very low loading. The present strength of the service is:

Ambulances	17
Dual purpose vehicles	4
Sitting case vehicles	4
Estate car	1
Staff/sitting car	1
Van	1
Workshop recovery vehicle	1
<hr/>	
	29

Radio Telephone Communication

With the Minister of Post and Telecommunications and the Department of Health and Social Security agreeing on a new wave band, specifications were drawn up for the replacement of the present Ambulance Service equipment. This work will be carried out in the Spring of 1972, and a detailed report will be included in the 1972 annual report.

Training

In April 1971, 2 pilot courses of 12 students were held in our own training school. The course consisted of basic first aid subjects presented in seven sessions.

The response to this type of course was so great that training continued until the end of May when 192 representatives from every department in the Corporation had attended. In all 300 applications were received, and it is hoped that this type of course will be repeated annually.

Training Equipment

The Shepshed Methodist Youth Club organised a sponsored adventure walk to raise money for a mobile cardiac unit which was planned for 1971. Unfortunately the project was postponed so the money was used to buy equipment for our training school. The items chosen were, a combined mouth to mouth cardiac massage model and an overhead projector which will be in constant use.

Examinations

Mr. J. McCafferty, Chief Ambulance Officer, passed his Associate Examinations with distinction and was awarded the Institute prize for being the top student for 1971.

Competition

The annual competition at the depot was won by Ambulancemen Wright and Musson. Although they were unsuccessful in the regional round held at Bridlington, Ambulanceman Wright tied for first place for the title of Driver of the Year. In a special driving test set on the day he lost by $\frac{1}{4}$ of a point.

City Ambulance Service		Total calls		Increase	Decrease		
	Patients carried	1971	1970				
	Hospitals: Outpatients	97882	91521	+ 6361			
	Admissions & Transfers	8937	7572	+ 1365			
	Discharges & Convalescent	6893	9110		—2217		
	Maternity cases	2248	2411		—163		
	Mental cases	376	203	+ 173			
	Infectious disease cases	61	83		—22		
	Accidents – Road	1351	1381		—30		
	Other	6267	6284		—17		
	Premature baby cot cases	51	38	+ 13			
	Parkfield School	.	3191		—3191		
	Other local authorities	3	3				
	Patients dead on arrival	132	116	+ 16			
	Abortive	4005	3797	+ 208			
	Miscellaneous services for which charges are made – number of journeys	1141	581	+ 560			
	Transporting Gas & Air machines for Midwifery Service – number of journeys	.	3		—3		
	Number of other journeys made by personnel	829	850		—21		
Total calls		130076	127144				
Mileage		461864	464998				
Average miles per patient		3.55	3.66				
Number of patients conveyed by train		87	53				
Train mileage		11237	7236				
Average train miles per patient		129.16	136.53				
	1971	1970	1969	1968	1967	1966	1948
Total number of calls	130,076	127,144	121,082	115,907	117,431	115,805	36,661
Mileage by road	461,864	464,998	468,907	467,864	454,788	446,155	196,870
Average miles per patient	3.55	3.66	3.86	4.04	3.81	3.85	5.37
Patients conveyed by train	87	53	48	72	75	134	.
Number of miles by train	11,237	7,326	7,323	8,507	8,834	14,173	.
Average miles per patient by train	129.16	136.53	152.56	118.15	117.78	105.75	.

Mortality Rates-100,000 population

			Age Groups				
			35	45	55	65	75
Cancer – Bronchus	<i>m</i>		19	64	335	736	422
	<i>f</i>		.	12	35	76	32
Cancer – Stomach	<i>m</i>		6	18	109	177	298
	<i>f</i>		.	12	41	62	127
Cancer – Breast	<i>m</i>		.	.	.	.	25
	<i>f</i>		.	65	93	131	170
Cancer – Uterus	<i>f</i>		.	30	29	90	51
Ischaemic Heart Disease	<i>m</i>		58	298	622	1471	3523
	<i>f</i>		6	24	204	579	2029
Cardio Vascular Accident	<i>m</i>		19	41	167	628	2730
	<i>f</i>		6	12	111	435	2357
Bronchitis	<i>m</i>		6	35	148	481	918
	<i>f</i>		.	12	41	83	159
Other Respiratory	<i>m</i>		.	6	13	49	149
	<i>f</i>		.	.	6	.	42

Examination of the age specific mortality rates shows the high proportion of deaths due to ischaemic heart disease in both sexes. In males the incidence rises five fold between age 35 and 54.

Age specific death rates

Age specific death rates have been calculated for a number of conditions most likely to cause death. It will be seen that cancer of the lung in males continues to remain high and the rate in males age 65—74 is ten times the equivalent rate in the female population of the same age.

Cancer of the breast – the diagnosis of this condition is relatively easy but most patients do not present until the condition is fairly far advanced and it is noted there is a mounting incidence from the age of 45.

In the case of ischaemic heart disease there is a marked increase from the age of 45 but although diagnostic and treatment facilities have improved considerably over the past years, many cases die before treatment can be undertaken. A report from the British Heart Journal states that of the deaths that occurred within 4 weeks of a heart attack, 75% took place outside hospital, 45% within an hour of the attack, and one quarter of all deaths occurred before the doctor saw the patient. In many respects the younger the patient the worse the prognosis. In patients of 64 years or less most deaths occurred before medical care arrived and of these 57% died within 15 minutes of the heart attack and 70% within one hour.

Road Traffic Accidents

Analysis of **Persons killed or injured** in Leicester City during 1971

	Fatal	Serious	Slight
Child pedestrian	5	71	218
Pedestrians	12	82	266
Child Pedal Cyclists	1	11	42
Pedal cyclists	.	9	96
Auto cyclists & Scooterists	.	24	96
Motor Cyclists	.	32	111
Drivers	4	41	271
Pillion passengers	1	5	19
Sidecar passengers	.	.	3
P.S.V. passengers	.	6	64
Other passengers	6	45	276
	29	326	1462
Total injury accidents recorded	1492		
Total casualties	1817		

The Road Research Laboratory in their report puts the cost of all road traffic accidents in Britain in 1968 as £300 million. Applying the same criteria the cost of road traffic accidents in Leicester amounts to nearly £1 million. This does not take into account the cost of "damage only" accidents or those not reported to the Police.

These estimated costs allocated to the various types of personal injury are set out below:

	£
(1) 29 fatal accidents at £15,790	= 457,910
(2) 288 serious accidents at £1,100	= 316,800
(3) 1175 slight accidents at £190	= 223,250
	<u>997,960</u>

How many of these lives could have been saved and accidents avoided by greater consideration by drivers and pedestrians?

Road Accidents to School Children in Leicester

During the year 1971, there were 88 serious and fatal accidents amongst children age 14 years and under in the City of Leicester.

No significant increase in defects such as poor vision, deafness or epilepsy was found amongst these children compared with others not involved in accidents.

There was a noticeable increase in the occurrence of accidents in the northern section of the City – 49 as opposed to 21 in the central division and 18 in the eastern section. The reason for this discrepancy lies possibly in the geographical siting of estates with a high proportion of child inhabitants in the northern section, and that in each of the areas where a noticeable cluster of victims live, there are two or more major roads bounding the estate.

Analysis of the times and days of the week when accidents occurred showed a definite increase in the number reported on Fridays compared with Monday, Tuesday and Saturday, each of which produced only two thirds while Wednesday, Thursday and Sunday numbers were one third of the Friday total.

The times of the accidents showed a certain tendency to increase between 3.00 p.m. and 7.30 p.m. with the exception of Saturday and Sunday when the incidence was highest between 12 noon and 4.00 p.m.

In a random selection of 37 serious accidents, the distribution between Infant, Junior and Senior schools was roughly equal.

A total of 548 school days was lost through injuries sustained – an average of 21 school days per accident. Only a very small proportion of mothers of the children involved were at some form of work, so that an attempt to cost each accident in terms of time absent from work by the mother, was not considered significant enough to pursue.

Cervical Cytology 1971	1971	1970	1969	1968
No. of women requesting smear	679	1117	1245	1433
Examined at Midland House	1228*	1231*	1028	1338
Examined at home	.	.	1	4
No. on waiting list	66	88	177	78
No abnormal cells	1154	1197	937	1135
Doubtful	2	1	7	4
Positive	1	2	4	5
Positive findings per 1000 Examinations	0.8	1.6	3.7	3.7
Trichomonas	30	18	37	38
Monillia	14	7	6	8
Other findings	27	6	37	152
Total abnormal findings	72	33	84	203
Total abnormal findings per 1000 Examinations	5.9	2.8	8.1	15.2

*Examinations higher than requests because of planned recalls

Infectious Diseases

The incidence of infectious diseases in the city remains at a fairly low level showing little change from 1970. There have been no major outbreaks of any specific diseases and it is gratifying to see a reduction in the number of cases of infective hepatitis.

The increase in whooping cough notifications from 13 to 60 is a reflection of the low figure for acceptance of primary immunisation in infancy.

The four cases of typhoid were all contracted abroad. There have been no generalised outbreaks of food poisoning or dysentery, in fact gastro enteritis cases were reduced from 86 in 1970 to 29 in 1971, let us hope this trend continues.

Infectious Diseases Morbidity and Mortality

	Notifications		Deaths	
	1971	1970	1971	1970
Measles	1722	2476	.	.
Scarlet Fever	47	40	.	.
Whooping Cough	60	13	1	.
Diphtheria	.	.	.	.
Meningitis	12	10	3	5
Acute Poliomyelitis	.	.	.	.
Encephalitis	.	.	1	.
Bacillary Dysentery	31	14	.	.
Typhoid Fever	4	1	.	.
Paratyphoid Fever	.	.	.	.
Infective Hepatitis	146	561	1	2
Ophthalmia Neonatorum	1	3	.	.
Leprosy	1	2	.	.
Gastro Enteritis	29	86	5	9
Tuberculosis (see section on Tuberculosis)				

Infectious diseases notifications

	1950	1955	1960	1965	1967	1968	1969	1970	1971
Measles	1839	7168	2867	2411	2142	1638	1254	2476	1722
Whooping Cough	969	1139	61	168	131	140	19	13	60
Dysentery	697	505	48	169	27	116	35	14	31
Scarlet Fever	478	147	99	66	122	118	89	40	47
Puerperal Fever	47	155	92	15	17	14	No longer notifiable		
Diphtheria	5	.	.	.	.	.	.	.	.
Meningitis									
Meningococcal	16	7	.	2	2	1	2	7	6
Other Specified	.	.	.	.	.	.	11	2	6
Unspecified	.	.	.	.	.	1	7	1	.
Poliomyelitis									
Paralytic	42	4	1	.	.	.	.	.	.
Non-Paralytic	37	9	.	.	.	.	.	.	.
Encephalitis									
Infectious	8	.	5	.	.	1	1	.	.
Post-Infectious	.	1	.	1	1	.	.	.	.
Leptospirosis	.	.	.	.	.	.	.	.	.
Paratyphoid	.	.	1	.	.	1	.	.	.
Typhoid	.	.	.	.	1	.	3	1	4
Gastro Enteritis	.	.	.	.	.	.	57	86	29
Food Poisoning	347	251	27	5	19	76	51	60	71
Malaria	.	2	.	.	.	1	1	2	.
Ophthalmia Neonatorum	2	3	11	6	7	1	3	3	1
Leprosy	.	.	.	.	.	.	1	2	1
Infective Hepatitis	.	.	.	299	188	244	664	561	146
Tuberculosis									
Pulmonary	.	213	158	124	83	94	108	128	122
Non-Pulmonary	.	26	26	33	38	37	73	62	64

Poisoning Admissions

Every week at least 6 children are admitted to Leicester Royal Infirmary suffering from poisoning. During the summer months, however, this figure trebles.

Some children are admitted on more than one occasion suffering from poisoning and it is by no means rare for poisoning to occur to consecutive children in a family over a period of a number of years. When will parents and others responsible for the care of children learn that the child is naturally inquisitive, is probably incapable of reading, and therefore does not appreciate that household cleaning materials, pills and other items swallowed may be dangerous.

Even though death may not result immediately, in a number of instances permanent damage may result from the ingestion of poisonous substances. The following list of poisonous materials consumed by children indicates the necessity to improve the present methods of security.

Household Chemicals

- paraffin
- toilet cleaner
- nail varnish remover
- turpentine
- hair spray
- Brasso
- bleach
- window lene
- eau-de-cologne
- caustic soda
- anti freeze
- 'seven in one' oil

Plants

- laburnum seeds
- toadstools
- lupin seeds
- lilac seeds

Weedkillers & Pesticides

- Weedol
- Nipon (ant killer)
- Warfarin

Drugs

- Junior Asprin
- cough syrup
- zinc calamine
- iron tablets
- Phenergan
- trinitrate
- amtryptylene
- eucalyptus
- phenylbutazone
- Sloanes linament
- Serenid D
- Tixylix
- Lederamyan
- Dimetone
- butabarbitalone
- Tryptizol
- Plurivite
- Mogodon
- Kwells
- Dettol
- Lasix
- codeine
- ear drops
- Prednisolone
- wintergreen
- penicillin
- Anadin
- Betnovate
- chlorpromazine
- atropine
- Distaquine

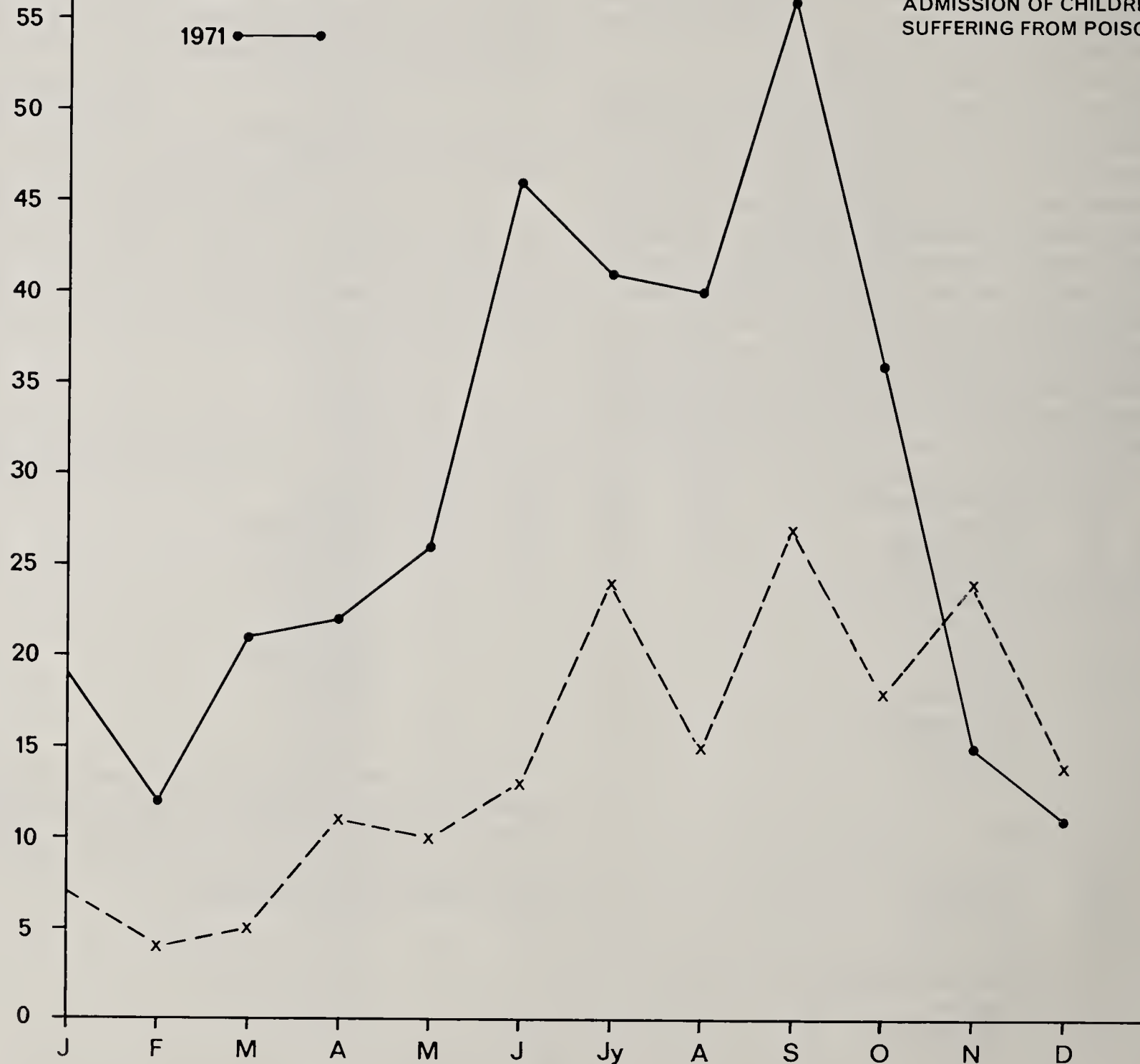
All poisons, pesticides, drugs and caustic cleaning materials must be kept out of reach of children and preferably in locked cupboards. It is not the child's fault but negligence and lack of consideration on the part of parents that allows this unnecessary suffering to continue.

No. of
Children

1970 x — — — x

1971 • — — — •

LEICESTER ROYAL INFIRMARY
MONTHLY ANALYSIS OF
ADMISSION OF CHILDREN
SUFFERING FROM POISONING



Food poisoning 1971

	General outbreaks		Family outbreaks		Sporadic cases	Total	Total
	No. of separate outbreaks	No. of cases notified or ascertained	No. of separate outbreaks	No. of cases notified or ascertained	Notified or ascertained	No. of outbreaks and sporadic cases (columns 1, 3, 5)	No. of cases (columns 2, 4, 5)
Causative agents	1	2	3	4	5	6	7
S. Typhimurium	5	5	5
Other Salmonellae	.	.	1	3	10	11	13
Staph Aureus	2	.	2
Total	.	.	1	3	17	16	20

Food poisoning due to Salmonellae other than Salmonella Typhimurium

Indiana	.	.	.	.	1	.	1
S. Thompson	.	.	.	.	1	.	1
Agona	.	.	.	.	2	.	2
Saint Paul	.	.	.	1	1	.	2
Stanley	.	.	.	1	.	.	1
Infantis	.	.	.	.	1	.	1
Untyped	.	.	.	1	4	.	5

Special Clinic for Leprosy Contacts

There were 14 cases of leprosy at the beginning of 1971 on the register in Leicester. During the year two new notifications have increased the number to 16 cases. The Leicester Royal Infirmary is treating 13 patients and 3 are under the care of the Hospital for Tropical Diseases in London. All cases are now quiescent and non-infectious.

As in previous years a regular clinic is being held at the Health Department for observation of all close contacts of these patients. Each contact is observed for 2 – 5 years at 3 monthly intervals. The total number on our list in January, 1971 was 55 and at the end of the year the figure dropped to 34 contacts. The attendance was on the whole regular and the people were grateful for the supervision. None of the examined showed any signs of the disease. Nine persons were found to suffer from other skin conditions and referred for treatment.

The anti-tuberculous B.C.G. vaccination which gives some protection against leprosy was administered to those requiring it.

Leprosy cases and contacts

<i>Cases</i>	
No. of cases 1st January, 1971	14
New notifications in 1971	2
Cases taken off register in 1971	.
No. of cases 31st December, 1971	16
<i>Contacts</i>	
No. of contacts 1st January, 1971	55
New contacts	25
Removed from observation	34
No. of contacts 31st December, 1971	46
No. of sessions 1971	24
Total attendances 1971	148

Effects of Immigration

There are few elderly immigrants and it may be justifiable to assume by far the majority are under the age of 55. From the locally determined Census of school children it is known that immigrants represent approximately 17% of the total school population. If it is assumed that the proportion of immigrants in the under 55 population is equivalent to the proportion in schools this would put the total immigrant population at approximately 36,000.

Although this may be a very rough estimate it justifies further examination of the changing pattern that has occurred in the proportion of immigrants in schools over the past few years. Thus, in 1966, West Indians represented over 26% of the immigrant population, but now they have dropped to 13%. During the same period Pakistanis dropped from 7% to 3% and Indians have dropped from 48% to 38%. There has, however, been a marked rise in the number of Kenyan Asians who began to arrive in 1969 and have now reached 29% of the immigrants in schools. Kenyan Africans now represent 8% of the immigrant population and other African Commonwealth persons have reached 9%.

The main problem from a public health point of view is not the risk of importation of tropical diseases but the difficulty of communication with those who have a poor understanding of English. Although this has been a major problem with those arriving from India and Pakistan the same difficulty has not occurred with those from Kenya who frequently speak English well and have a higher degree of literacy. Should the number of immigrants who are unable to speak English, or to read their own language continue to rise, then the health problems are likely to increase, for without a common language it is extremely difficult to help and advise patients and their relatives and to seek their co-operation in undertaking any remedial measures that may be prescribed. This in turn inevitably leads to ineffective use of the National Health Service resources which are already under considerable stress.

Numbers alone are an inadequate measure of the changes that have occurred as a result of the continually increasing number of immigrants in Leicester. Before their arrival in the early 1960's it was already approved that the number of staff in the Department were inadequate to deal with the medical and social problems then existing in the city. The increased burden now carried by the Department is not represented in a direct proportion to the total population increase but by the rapid rise in the special risk groups. The number of staff per thousand population at risk has been reduced to such an extent that it is becoming increasingly difficult to maintain even the most elementary fire brigade service and the development of a planned comprehensive health programme is now impossible without substantial increases in the manpower resources.

Inevitably because of language and cultural difficulties each consultation and each visit will take a disproportionately longer period of time compared with a visit to an English speaking family. In many respects the situation in some areas may be likened to that existing in the 1930's – dealing with ignorance, illiteracy and malnutrition, the whole task made more difficult by the problem of language.

Although a proportion of the males speak some English, in some cases the women are actively discouraged from learning the language and opposition is expressed to advice given with a view to trying to improve their general health.

The problem of tuberculosis

The tracing and investigation of contacts is particularly troublesome. Not only do they require persuasion to attend the Chest Clinic but in a confirmed case further persuasion is necessary to ensure that they take the appropriate treatment.

Characteristics of practices

At present there are relatively few elderly immigrants resulting in the number of families and the number of children under 5 in immigrant practices being between two and

three times as many as in an equivalent practice in which the majority of patients are from the indigenous population. Likewise the number of cases of tuberculosis are between 7 and 16 times as great as in the remainder of the population.

Thus it can be seen that immigrant practices often situated in areas where the general conditions of the housing is poor, attract a large number of patients particularly at risk. If our own staff are to be able to carry out the necessary supervision and undertake an active programme of treatment, improved facilities must be provided and the staff themselves must be supported with adequate equipment and clerical assistance.

Pollution

There is still a great reluctance on the part of many people to accept that the accumulation of the waste products of our industrialised society may create a serious hazard to the community. Although the eradication of black smoke has made a major contribution towards the reduction of atmospheric pollution there are a number of toxic chemicals which may be emitted in apparently 'clean smoke'. These chemicals may be precipitated over a wide area and depending upon their chemical constituents could act as herbicides or in certain circumstances cause injury to the health of people living in the fall-out area. A greater degree of responsibility must be shown by those who discharge waste with such an apparent lack of consideration for others.

During the course of 1971 examination of the soil of the Beaumont Leys area revealed unexpected levels of a number of metals, some of which were known to be capable, under the right circumstances, of causing ill effects in human beings. Although the area had been grazed by cattle and used for agricultural purposes for many years it had previously been used for sewage disposal. The proposed change in use of the land to provide new housing estates made consideration of this problem of chemical contamination one of urgency.

Careful enquiry revealed that although the toxic properties of a number of these chemicals were known, the level at which toxicity occurred had never been accurately determined. The only information available related in most instances to acute toxicity and certain permissible levels had been established in a rather arbitrary fashion to prevent acute poisoning. Little information, however, was available in regard to the long term cumulative effects that might arise from absorption of these substances.

After the most careful consideration the Council has, therefore, initiated a systematic chemical analysis of samples obtained over a large area. In addition, a variety of crops are being grown in order that further information may be

obtained regarding selectivity of the uptake of these various chemicals. It is interesting that although the problem in Leicester first arose in March 1971 by the end of the year it had become apparent that this was a national as well as local problem and at the time of writing a number of investigations are taking place in other areas of the Midlands because of the irresponsible dumping of cyanide. Cyanide is a well known poison and immediately evidence became available that this was being dumped public indignation was aroused. It is perhaps not so well appreciated that a wide variety of other chemicals are being disposed of in a fashion likely to be prejudicial to the health of the community. It is understood that the Government has now set up a Working Party on pollution as part of the United Kingdom's preparation for the United Nations' Conference on Human Environment to be held in Stockholm in 1972. It is to be hoped that the establishment of a Working Party will not delay the introduction of the necessary legislation to control the disposal of industrial waste.

Because of the increasing interest which has been aroused by the problems of pollution during the year some further information is given upon the results of investigation of soil samples on the proposed Housing Development Area at Beaumont Leys. This site had previously been used for sewage disposal.

Apart from bacteriological examinations soil samples were analysed for evidence of toxic materials. This included determination of total metal content, the available metal content and the water soluble toxic metals. Definition of these is given below:

Total metal content – Indicates the total metal content of a particular metal in the dried soil. In fields where the moisture of the soil may even exceed 30% the actual metal in the moist soil will be proportionately lower.

Available metal – This term applies to the amount of metal extracted from 5 grams of soil when treated with acetic acid.

This is usually much lower than the metal content and provides a more accurate indication of the possible toxic nature of the metal content towards plants.

Water soluble toxic metal – Water soluble toxic metal content of the soil was negligible.

Values of Metal Contamination found on Beaumont Leys Pilot Scheme Site

Metal	†Normal Value P.P.M.	*Maximum Value P.P.M.	Maximum Available P.P.M.	Average Available P.P.M.
Zinc	10–300	748		
Copper	–100	225		
Nickel	5–500	200		
Chromium	5–1000	1600		
Lead	–200 Leics. 50	680‡	32	10
Cadmium	0.4–1.0	17.0	2.0	
Mercury	0.1–0.3	3.9		
Arsenic	–38	51		

†These are either nationally accepted levels or, where these are not available, locally determined levels for Leicestershire County.

*These values were usually found to coincide with the effluent outlet points.

‡A value of 868p.p.m. was found on the opposite side of the road to the Pilot Area. This high level was probably due to contamination of the grass verge by petrol fumes.

It is quite clear, however, that it is extremely unwise to draw deductions without a detailed knowledge of the location from whence the samples were obtained and even then interpretation of the significance of the contamination must be related to how much a person, whether adult or child, could consume under relatively normal circumstances. Thus it is probable on the basis of our figures that a child must 'eat' approximately 2 oz of soil per day over a few months before clinical lead poisoning is likely to occur. Despite this reservation, however, it is necessary that further examination should be carried out in order to determine the selective uptake by vegetables that may occur in soil contaminated by various metals. Secondly it is desirable to obtain more information about the possible significance of high levels of cadmium in the soil. Reports from Japan suggest that it could, under certain conditions, prove detrimental to health.

End of smallpox vaccination for the very young

Routine vaccination against smallpox in their second year has been stopped by the Department of Health and Social Security. This decision was taken after careful consideration when it became evident that the risks of the average child coming into close contact with a case of smallpox was negligible. By comparison it must be recognised there are some complications that may arise occasionally from vaccination itself and it is to avoid these that vaccination as a routine procedure has been discontinued.

The prevalence of smallpox throughout the world has diminished but as a result of increased air travel the opportunity for cases to become widely dispersed from an endemic area still prevails. It is, therefore, of the utmost importance that Health Authorities should still maintain a high degree of vigilance in order that in the event of a case being detected immediate steps can be taken to trace contacts and to prevent the further spread of infection.

Cholera

Cholera was last present in Leicester over a hundred years ago, but a number of outbreaks were recorded in both Asia and Europe during 1971. One case occurred in this country. This is a salutary reminder that the so-called tropical diseases are no longer confined to the tropics. With the ready facilities available for moving large masses of the population from one part of the world to another, diseases of this nature can easily be introduced. It must be realised however that the introduction of any of these diseases may occur as a result of importation by returning holiday makers or business men and need not be associated with the arrival of immigrants.

Geriatric Care

Dr Alex Baker in his capacity as Director of the Hospital Advisory Service points out that in many cases acute Medical, Surgical and Orthopaedic beds are becoming

increasingly blocked by long term elderly patients. Leicester is no exception. There is a reluctance to accept that this problem is seriously disrupting the effective use of the existing hospital services. Some cold surgery has been halted entirely and waiting lists for admission will inevitably get longer. As with 'poor relations' nobody wants to have the old.

Some could return to or remain in their own homes if only there were adequate domiciliary staff to provide for their care. Others require the provision of accommodation suitable to their needs. Then it must be asked will adequate financial resources be made available to tackle this problem. The present arrangement whereby financial provision is made from two sources, Central and Local Government, prevents a concentrated attack upon the problem. Whilst the arguments grind on as to who shall pay, acute hospital beds continue to be blocked. Perhaps if we were old, lonely, lying in a wet bed because we were incontinent and hungry because there was no one to feed us, we would appreciate the need for action.

Statistical comparisons – Leicester County Borough & England & Wales

		1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
Total Live Births (per 1000 population)											
	England and Wales	18.0	18.2	18.5	18.1	17.7	17.2	16.9	16.3	16.0	16.0
	Leicester C.B.	18.7	18.5	19.1	18.8	18.3	18.6	18.4	18.4	17.6	16.9
Illegitimate Live Births (per 1000 total live births)											
	England and Wales	66	69	72	77	79	84	85	84	82	80
	Leicester C.B.	99.3	113.0	109.3	122.8	120.8	126.8	123.1	130.9	129.3	120.0
Stillbirths (per 1000 live and stillbirths)											
	England and Wales	18.1	17.2	16.3	15.8	15.3	14.8	14.3	13.2	13.0	12.2
	Leicester C.B.	17.8	19.2	18.7	13.4	16.3	16.6	17.8	14.3	12.4	13.0
Deaths (per 1000 population)											
	England and Wales	11.9	12.2	11.3	11.5	11.7	11.2	11.9	11.9	11.7	11.6
	Leicester C.B.	12.8	13.2	12.5	12.6	12.2	11.7	12.5	13.0	12.5	12.3
Infant Mortality (per 1000 live births)											
	England and Wales	21.7	21.1	19.9	19.0	19.0	18.3	18.3	18.0	18.2	17.6
	Leicester C.B.	23.2	21.4	22.8	21.5	27.0	21.3	19.8	24.4	21.0	22.0
Neo-natal Mortality (per 1000 live births)											
	England and Wales	15.1	14.3	13.8	13.0	12.9	12.5	12.4	12.0	12.3	12.0
	Leicester C.B.	14.4	15.0	16.1	14.0	16.6	15.4	12.3	14.1	11.3	14.0
Perinatal Mortality (per 1000 live births and stillbirths)											
	England and Wales	30.8	29.3	28.2	26.9	26.3	25.4	24.7	23.4	23.5	22.0
	Leicester C.B.	28.8	32.4	32.2	25.4	30.6	30.3	27.9	26.0	22.5	26.0

Live births

The live birth rate which reached its peak in 1964 in Leicester has declined much slower than that of the national average resulting in a continued high demand for maternity services.

Illegitimate live births

The proportion of illegitimate births in Leicester has always been substantially higher than the national average although the decline which first appeared in 1969 appears to have continued into 1971.

Stillbirths

There has been some fluctuation in the number of stillbirths occurring over the past decade but there is some evidence to suggest that the peak that occurred in the mid 60's associated with the arrival of large numbers of immigrants may now be declining as they are becoming more aware of the need for ante-natal care and seek this at an earlier stage of pregnancy.

Deaths

The death rate is slightly higher than the national average but despite this fact the proportion of elderly people in the population is steadily mounting and the increasing number of very old, frail and sick persons is causing grave concern as neither domiciliary nor residential facilities are adequate to deal with them.

The fluctuation in the infant mortality level that has occurred over the past decade is probably associated with the absorption into the community of large numbers of immigrant mothers whose knowledge and standards of care are only slowly improving.

Tuberculosis

Report on the Chest Clinic for 1971
by C M Connolly, *MD, MRCP, DPH*

221 new cases of tuberculosis were registered during the year as compared with 220 in 1970. These figures include the 'transfer in' cases who came to live in the City during the year.

	1971	1970	1969	1968
Pulmonary	153	151	136	126
Non-pulmonary	68	69	80	49
Total	221	220	216	175

The number of new cases in Asian immigrants was 89 pulmonary and 50 non-pulmonary in 1971 as against 89 pulmonary and 52 non pulmonary in 1970. Excluding transfers and 'lost sight of' cases the pulmonary cases in Asians (89) accounted for 67.4% of the total of new pulmonary cases in the City and the non-pulmonary cases in Asians (50) accounted for 86.2% of the total non-pulmonary cases found during the year.

The number of **new cases** in Asians since 1965

	1971	1970	1969	1968	1967
Pulmonary	89	89	75	62	50
Non-pulmonary	50	55	52	35	29
Total	139	144	127	97	79

New cases including transfers in since 1965

	1971	1970	1969	1968	1967	1966	1965
Pulmonary	153	151	136	126	114	175	165
Non-pulmonary	68	69	80	49	44	37	28
Total	221	220	216	175	158	212	193

% **Distribution of cases** in immigrants for 1971

67.4% of total pulmonary cases
86.2% of total non-pulmonary cases
73% of total notifications

Sources of the cases of tuberculosis registered during 1971

	Pulmonary	Non-pulmonary	Total
Transferred in from other areas	20	10	30
Referred by General Practitioners	91	43	134
Referred by hospital doctors	3	13	16
Referred by Mass Radiography Unit	12	.	12
Discovered on Contact X-ray	15	.	15
Scheme for X-ray of pregnant women	5	.	5
School case finding scheme	3	.	3
Death adjustments	2	2	4
"Lost sight of" cases returned	1	.	1
New immigrants	1	.	1
Total	153	68	221

Sex and age groups of those notified during 1971	0-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65+	Total
Pulmonary males	.	4	1	10	10	15	9	12	6	6	73
females	5	1	3	7	10	12	7	9	3	2	59
Non-pulmonary males	.	1	1	3	2	7	3	6	.	.	23
females	3	3	1	2	7	8	7	2	2	.	35

Sex and age groups of those transferred in from other areas and "lost sight of" cases returned	0-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65+	Total
Pulmonary males	.	.	.	.	1	4	3	1	.	.	9
females	.	.	4	.	2	5	1	.	.	.	12
Non-pulmonary males	1	.	.	.	1	.	3	1	.	.	6
females	.	.	.	1	.	3	.	.	.	.	4

Contacts x-rayed during past 4 years	1971	1970	1969	1968
Number of contacts examined	2814	2062	2232	1928
Number of contacts found to have tuberculosis	15	19	20	13

School case-finding scheme	1971	1970	1969	1968
Tuberculin positive school-children and their contacts, including school entrants, immigrants and school leavers	424	468	813	805
Number found to have tuberculosis	3	5	8	12

Radiological examination of expectant mothers	1971	1970	1969	1968
Number of expectant mothers x-rayed	1642	1615	1363	1461
Number found to have tuberculosis	5	1	1	4

B.C.G. Vaccination	1971	1970	1969	1968
Number of B.C.G. Vaccinations	691	496	626	697

Deaths	
Deaths due to Pulmonary tuberculosis	6
Deaths due to Non-pulmonary tuberculosis	3

Number of deaths from tuberculosis in Leicester during the past five years	Phthisis		Other tuberculous diseases		Total tuberculous deaths	
	Deaths	Rate per 100,000 population	Deaths	Rate per 100,000 population	Deaths	Rate per 100,000 population
1971	6	2·1	3	1·0	9	3·15
1970	6	2·15	3	1·0	9	3·2
1969	6	2·15	7	2·51	13	4·66
1968	6	2·1	3	1·0	9	3·2
1967	10	3·53	3	1·06	13	4·6

The above figures for 1971 include 3 death adjustments, and 1 posthumous notification.

Chronic cases	1971	1970	1969	1968	1967
Number of resistant cases	.	.	2	4	4

Recovered cases

During the year the names of 117 patients were removed from the tuberculosis register as having recovered. Of these 89 were pulmonary and 28 were non-pulmonary. Of the pulmonary cases 45 had tubercle bacilli in their sputum.

Clinical examinations	Men	Women	Children	Total
First examinations	2932	2053	437	5422
Re-examinations	1644	985	184	2813

Radiological examinations	1971	1970	1969	1968
	14295	14327	14057	13925

Radiological examinations

General Practitioners in Leicester requested an opinion on 4479 patients, 3583 were referred for the first time and the remainder were cases who had been X-rayed before.

Analysis of cases on Chest Clinic register

	Diagnosis	Pulmonary			Non-pulmonary			Total			Grand Totals
		Men	Women	Children	Men	Women	Children	Men	Women	Children	
A New cases examined clinically and/or radiologically	Definitely TB	64	43	5	19	32	5	83	75	10	168
	Diagnosis not completed and under observation							151	72	38	261
	Non-tuberculous							2827	3628	421	6876
B New contacts examined during the year	Definitely TB	5	2	8				5	2	8	15
	Diagnosis not completed and under observation							4	2	2	8
	Non-tuberculous							475	461	103	1039
C Cases written off Chest Clinic register	Recovered	48	32	9	14	13	1	62	45	10	117
	Non-tuberculous							3537	4206	539	8282
D Number of cases	Definitely TB	448	298	55	107	144	16	555	442	71	1068
	Diagnosis not completed and under observation							330	173	68	572

- 1 Number of cases on Clinic Register on 1st January, 1971, including observation cases 1714
- 2 Number of cases transferred in from other areas, also "lost sight of" cases returned 31
- 3 Number of cases transferred to other areas, cases not desiring further assistance under the scheme, cases "lost sight of" and cases where the diagnosis has not been established 60
- 4 Cases written off during the year as dead (all causes) 13
- 5 Number of attendances at the Clinic for all purposes 17213
- 6 Number of chest X-ray films taken during the year 14295
- 7 Number of persons receiving B C G vaccine at the Clinic during the year 691
- 8 Number X-rayed under the scheme for X-ray of pregnant women 1642

1971 has shown a halt in the rising number of pupils aged 13 who were found to be positive when tested for tuberculosis.

	1967	1968	1969	1970	1971
Number of pupils found to be positive	266	187	346	445	397
%	17.1	7.82	12.63	17.36	14.85

At the same time there has been a reduction in the number of immigrant pupils of all ages found to be positive.

	1967	1968	1969	1970	1971
Number of pupils found to be positive	307	388	414	190	184
%	40.4	40.42	52.80	33.10	22.97

These trends may be associated with the different characteristics of the immigrants now arriving in Leicester. The more recent arrivals from Kenya and Uganda have a higher socio-economic level and may have had less previous exposure to adverse conditions such as poverty and malnutrition.

Because of their higher educational attainments they are in a better position to obtain more skilled work at a higher rate of pay, thus enabling them to obtain better housing and living conditions when settling in the City.

It is also evident at the time of examination that an increasing number of immigrant pupils in the age range 11-12 years have already received B.C.G. vaccination at an earlier age.

	1967	1968	1969	1970	1971
Number of pupils found to be positive, previously vaccinated	226	570	374	460	583

Thus, in 1967 the number found who had previously been vaccinated was 226 and by 1971 this had risen to 583.

Tuberculosis

Trend of Tuberculosis in Children 5-14 years over the last 5 years

	1967	1968	1969	1970	1971
Pulmonary tuberculosis cases notified with number of immigrants shown in brackets	11 (8)	13(11)	15(13)	11(11)	9 (7)
Non Pulmonary tuberculosis cases notified with number of immigrants shown in brackets	4 (2)	5 (5)	6 (4)	3 (3)	6 (4)
Total (total immigrants shown in brackets)	15(10)	18(16)	21(17)	14(14)	15(11)
Immigrants as percentage of total	67%	89%	80%	100%	73%

School entrants

Tuberculin skin tested	2452	2519	2771	2794	3421
Number found positive	144	158	189	211	318
Percentage positive	5.8%	6.2%	6.8%	7.5%	9.3%

Difficulties associated with contact tracing

Once an initial case of tuberculosis has been diagnosed there may be considerable difficulty in tracing other contacts due to the lack of co-operation of the patients and his family. The following case illustrates some of these difficulties.

Mr. X arrived in the United Kingdom in 1964 at which time he was known to have had a clear X-ray. In 1965 his wife arrived in this country leaving one child in the care of relatives abroad. Both husband and wife were students.

A second child was born in 1967 and a third in 1969. There had always been difficulty in maintaining contact with the family and it is known that the children were illegally minded for much of the time. Between 1967 and 1971 the children lived in at least 4 separate official addresses, but in addition were minded by at least 4 other illegal minders on both a day and residential basis.

On 8th July 1971, the mother applied for a day nursery place and was subsequently traced by the health visitor. At that time the children appeared well.

On 21st July 1972, one child was admitted to Leicester Isolation Hospital with a diagnosis that was subsequently confirmed as miliary tuberculosis.

On 28th July 1972, the parents were checked at the Chest Clinic and found to be clear, but at the same time it was reported that the daughter of one of the minders had been admitted to hospital with tuberculosis in April 1971.

On 31st July 1972, the second child was found to have a Grade 4 positive heaf test and arrangements were made for the family to see the Chest Physician. They did not appear. Subsequently after further visits from the health visitor the father was traced at work and brought the child to the clinic. Because of its condition the child was admitted to hospital.

The father, however, denied knowledge of the whereabouts of the mother.

In the meantime efforts had been made to persuade the child minder and her family to attend the clinic, but without result.

Tuberculosis can still be a dangerous and, indeed, fatal disease. Lack of co-operation by contacts may result in the spread of infection. The danger that arises if a person with tuberculosis has the care of young children is illustrated by this case. Failure to divulge their illegal occupation resulted in the death of one child and the admission of a second to hospital.

Incidence of Tuberculosis in Leicester school children 1967-1971

	1967	1968	1969	1970	1971
Pulmonary T.B.	1 @ 5 yr. 1 @ 6 yr. *1 @ 8 yr. (+ hip) 2 @ 9 yr. 1 @ 10 yr. 1 @ 11 yr. 2 @ 12 yr. 2 @ 14 yr. 1 @ 15 yr.	2 @ 6 yr. 1 @ 9 yr. 2 @ 11 yr. 2 @ 12 yr. 3 @ 13 yr. 2 @ 14 yr. 1 @ 15 yr.	3 @ 5 yr. 2 @ 9 yr. 1 @ 11 yr. 1 @ 12 yr. 2 @ 13 yr. 6 @ 14 yr. 2 @ 15 yr.	2 @ 6 yr. 1 @ 7 yr. 1 @ 8 yr. 1 @ 9 yr. 1 @ 10 yr. 1 @ 11 yr. 2 @ 12 yr. 1 @ 13 yr. 1 @ 14 yr. 1 @ 15 yr. 1 @ 16 yr.	1 @ 4 yr. 1 @ 5 yr. 1 @ 6 yr. 3 @ 7 yr. 2 @ 12 yr. 1 @ 13 yr. 1 @ 14 yr. 1 @ 15 yr. 1 @ 16 yr.
T.B. Glands	1 @ 9 yr.	1 @ 9 yr. 1 @ 11 yr. 1 @ 14 yr.	1 @ 10 yr. 1 @ 14 yr. 1 @ 15 yr.	1 @ 8 yr. 1 @ 15 yr. 1 @ 14 yr.	1 @ 6 yr. 1 @ 8 yr. 1 @ 11 yr. 1 @ 12 yr.
Renal T.B.	1 @ 7 yr.				
T.B. Peritonitis			1 @ 10 yr.		
T.B. Meningitis			1 @ 6 yr.		1 @ 9 yr.
T.B. Cutis					
T.B. Spine		1 @ 8 yr.			
T.B. Ribs		1 @ 12 yr.			
T.B. Hip	*1 @ 8 yr.				
T.B. Knee				1 @ 13 yr.	
T.B. Ankle	1 @ 12 yr.				
T.B. Dactylitis					1 @ 8 yr.
Total	15	18	22	16	20

* This child had Pulmonary T.B. and T.B. of Hip, and has been counted as one.

Leicester Area Mass Radiography Unit

Report on Surveys carried out in the City of Leicester, 1971.

I am indebted to Dr. E. M. Quinn, Medical Director, for the following report:

During the year under review the Unit spent five months in the City and seven months in the County areas due to a rather heavy committment in the County towards the end of the year.

The groups x-rayed consisted of the general public; organised groups; doctor's referrals; students; schools' staff; tuberculin skin positive school children; playgroup leaders; child minders; contacts and prisoners.

Visits were made to the Scraptoft Training College, Barkby Road Industrial Area; Marconi Radar Systems; H.M.

Prison; Central Electricity Generating Station and East Midlands Electricity Board.

16,702 persons were x-rayed during the year (24,458 in 1970).

10 cases (20 in 1970) of pulmonary tuberculosis requiring close supervision were discovered – 7 males and 3 females. Of these, 5 were Asian immigrants.

380 examinees were referred by General Practitioners (570 in 1970). 2 cases of pulmonary tuberculosis were found in this group.

Only one case was found in the public sessions as against 6 in the organised groups.

8 cases of malignant neoplasm were found, 6 male and 2 female (12 cases in 1970).

Leicester (City) 1971

Group	Initial X-ray			T B close super- vision		Rate per 1000	T B occasional super- vision		Bronchi- ectasis		Cardiac		Pneumo- coniosis		Malignant neoplasm		Non- malignant neoplasm		Sar- coid	
	<i>m</i>	<i>f</i>	<i>Total</i>	<i>m</i>	<i>f</i>		<i>m</i>	<i>f</i>	<i>m</i>	<i>f</i>	<i>m</i>	<i>f</i>	<i>m</i>	<i>f</i>	<i>m</i>	<i>f</i>	<i>m</i>	<i>f</i>	<i>m</i>	<i>f</i>
Public sessions	2599	2898	5497	1	.	0.19	1	.	2	1	8	6	.	.	1	1	.	.	.	.
Doctor's patients	213	167	380	1	1	5.26	.	.	5	.	3	7	.	.	2	.	.	.	.	.
Organised groups	6410	3782	10192	4	2	0.60	2	.	7	2	12	3	2	.	2	1	.	.	.	.
Students	81	257	338	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Prisoners	181	.	181	1	.	5.50	.	.	.	.	.	.	.	.	1	.	.	.	.	.
Contacts	6	12	18	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
<i>Schools</i> Outward Bound	18	.	18	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Skin+ve	38	40	78	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Totals	9546	7156	16702	7	3	0.60	3	.	14	3	23	16	2	.	6	2	.	.	.	.

Mrs. Dight, contact tracer (V.D.), reports as follows:

In six months there have been 260 referrals from Dr. Reed and his colleagues and so there is a need to be met. 138 were for visits, either for defaulting or contact tracing, 17 of those were visits for the Loughborough clinic. The remaining 122 were interviews in the clinic. The patients are of both sexes, from all classes, of varying ages and include some immigrants. Most of them have been seen at least twice and many 4 times and a few 8 times. Relatives were visited at home and interviewed at the Clinic on several occasions when this was relevant to the patient's need and was what she wanted. A freshly devised system of case recording to fit the specialised work will be in use soon and by next year there can be a more meaningful breakdown of these figures.

The clinic interviews were either to facilitate contact tracing, or to give social work support. These two components cannot always be separated and the services required range from relatively simple problems to complex personal situations, involving considerable emotional disturbances. Stable relationships and married couples come into this last category. Feelings run very high when the disease is diagnosed and the partner is asked to attend. The couple will either grow closer or fall right apart, depending on how well they negotiate the crisis. The presence of a third party who can absorb some of the shock and restore sweet reasonableness before too many hurtful things are said can often weigh the balance in favour of the marriage.

Common to both aspects of the work is the need for a social work approach in offering a supportive relationship through a difficult period, to cope with treatment and understand it, to clarify an emotional problem, to face up to the implications and make a decision which may involve acceptance of a referral elsewhere – the Family Planning Association, The Birmingham Pregnancy Advisory Service, the Leicester Diocesan Council for Social Work, the Careers Officer, a Psychiatrist.

Liaison with Health Visitors, Probation Officers, Social Workers, is frequent. There is opportunity for some preventative work in counselling the young who arrive very frightened and in fact have no infection but who are very relieved to talk and seek re-assurance.

It is good to work in a setting where the accent is on positive cure. However, there is the recurring problem of re-infection often surrounded by a mass of negative feelings: A lack of achievement and satisfaction in relationships at home where the parents' marriage is often broken, a lack of fulfillment at work with under-achievement topped by a feeling of "what does it all matter to anyone else anyway." The therapy here is the quality of the personal service and its impact on the patient over the 3 months attendance necessary for surveillance. This is an important weapon in the war against the disease as only an increased self-regard and understanding can bring an increased responsibility towards others and so stem the tide. This service is now extended by the addition of a social worker for those in special need.

Attendance at the Annual Study Day on May 12th as a new member of the recently formed association of workers in this special field, confirms the fact that this beginning made in Leicester is part of a mounting campaign on a national basis as the realisation grows of the appalling wastage of human potential expressed in the high incidence of this 'dis-ease'.

Venereal Disease – new cases – City residents

	1967	1968	1969	1970	1971
<i>Syphilis</i>					
Local males	.	7	16	8	11
Immigrant males	13	4	1	2	2
Local females	.	1	14	6	5
Immigrant females	9	1	2	2	1
Total males	13	11	17	10	13
Total females	9	2	16	8	6
<i>Gonorrhoea</i>					
Local males	57	121	201	210	188
Immigrant males	124	105	150	199	124
Local females	89	66	170	311	276
Immigrant females	21	19	25	52	48
Total males	181	226	351	405	312
Total females	110	85	195	363	324
% Total Gonorrhoea cases under 20	14%	17.5%	16.8%	29.7%	30.8%
<i>Homosexuals</i>					
<i>Syphilis</i>					
Local males	*	.	.	.	2
Immigrant males	*	.	.	.	1
<i>Gonorrhoea</i>					
Local males	*	.	33	23	19
Immigrant males	*	.	1	2	2

* Not known

New cases treated at Leicester Royal Infirmary Special Clinic during 1971 (city and non-city residents)

Age groups	<i>Syphilis</i>			<i>Gonorrhoea</i>		
	Total	Male	Female	Total	Male	Female
under 16	.	.	.	8	1	7
16 & 17	1	1	.	95	23	72
18 & 19	.	.	.	158	59	99
20 – 24	2	1	1	287	151	136
Over 25	6	5	1	316	225	91
Total	9	7	2	864	459	405

Diphtheria immunisation (a) Primary immunisation

Table 1 Year of immunisation and numbers immunised

Year of birth	1971	1970	1969	1968	1967
1971	7				
1970	3028	36			
1969	606	2907	156		
1968	47	149	1959	1669	
1967	19	37	134	2015	1769

Diphtheria (b) Reinforcing doses

Table 2

Year immunised	Year of Birth											Totals	
	1971	1970	1969	1968	1967	1966	1965	1964	1963	1962	1961	under 5 years	5-9 years
1971				141	-----	3034	-----					141	3034
1970			1	1845	185	-----	3159	-----				2031	3159
1969				796	1755	241	-----	2594	-----			2792	2594
1968					774	1757	271	-----	2855	-----		2802	2855

Whooping cough vaccination

Table 3

Number of children receiving whooping cough vaccination in 1971

Completing course of primary vaccination	3634
Receiving booster dose	286

Measles vaccination

Table 4

Number of children receiving primary measles vaccination in 1971 3545

Tetanus immunisation

Table 5

Number of children up to age 16 years receiving tetanus vaccination in 1971

Completing course of primary vaccination	4069
Receiving booster dose	3417

Poliomyelitis Vaccination

Table 6 Number of doses of oral vaccine

	0-4 years	5-9 years	10-15 years	Total
Third dose (i.e. Primary course completed)	3701	384	46	4131
Fourth dose (i.e. booster dose)	140	2866	110	3116

Smallpox Vaccination

Table 7 *Number of persons vaccinated against smallpox in 1971*

	Under 1 year	1 yr. & under 2	2-4 years	5-14 years	Total
Primary vaccination	38	1390	312	292	2032
Re-vaccination	1	1	89	321	412

Infant vaccination against smallpox

Table 8

	Number of children vaccinated during the year at recommended age	Live births in same year	% of live births
1971	1460	4756	30·70
1970	1583	4866	30·48
1969	1887	5118	36·87
1968	1875	5143	36·46
1967	1822	5267	34·59
1966	1559	5117	30·47
1965	1457	5018	29·03
1964	1038	5087	20·40
1963	324	4999	6·48
1962	1937	5087	38·08
1961	424	4671	9·08

Immunisation against Diphtheria, Whooping Cough (Pertussis), Tetanus, Poliomyelitis, Measles and Smallpox in 1971

Table 9

Immunisation Centre	Diph/Tet/Pert Primary Boost		Diph/Tet Primary Boost		Diphtheria Primary Boost		Tetanus Primary Boost		Poliomyelitis Primary Boost		Measles Primary	Rubella Primary	Smallpox Primary Booster	
General Practitioner	44	236	19	261	.	1	33	211	59	502	501	109	1192	409
Local Authority Clinic	14	50	16	96	.	.	.	.	34	142	272	.	840	3
Infant School } Junior School }	.	.	292	2558	47	70	7	5	385	2550	.	2128	.	.
Others	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Table 10 Children born in 1969

	Whooping cough	Diphtheria	Polio- myelitis
England	78	80	80
Leicester	71	72	71

The above figures show the percentages of children born during 1969 who have completed a primary course of vaccination at any time.

Tuberculosis . B C G vaccinations in 1971

Table 11 B C G vaccinations of 13 year old pupils

Number of pupils tested	3350
Number of pupils who attended for reading	3149
Number of pupils found to be negative	2277 = 85.15 %
Number of pupils found to be positive	397 = 14.85 %
Number of pupils found to be positive, previously vaccinated	475
Number of pupils vaccinated	2249
Number of pupils found to be negative not vaccinated due to eczema or other conditions	28

Table 12 B C G vaccinations of immigrant pupils of all ages

Number of pupils tested	1501
Number of pupils who attended for reading	1384
Number of pupils found to be negative	617 = 77.03 %
Number of pupils found to be positive	184 = 22.97 %
Number of pupils found to be positive, previously vaccinated	583
Number of pupils vaccinated	615
Number of pupils found to be negative, not vaccinated	2

Table 13 Post B C G vaccination skin tests

Number of pupils retested (Pupils found to have no, or very small reaction on inspection following vaccination)	218
Number of pupils found to be positive	105 = 51.98 %
Number of pupils found to be negative	97 = 48.02 %
Absentees from reading	16
Number of pupils found to be negative, but not re-vaccinated	7
Number of pupils re-vaccinated	90

Public Health and Food Inspection Department

Report for the year 1971

G A Hiller, *FRSH, FAPHI*, Chief Public Health Inspector

By the time this Report is presented to the Council I shall have retired after nineteen years as your Chief Public Health Inspector.

During this period a great deal has been done to improve environmental conditions in Leicester, although there is still much to be done and the citizens of this City are beginning to realise the dangers of pollution and to accept the warnings which public health inspectors have been trying for many years to point out. Indeed the whole world is becoming frightened and starting to accept, albeit reluctantly, the fact that humanity is in danger of destroying itself with its own wastes if it does not take control of pollutants and eliminate or, at least, reduce them without further delay.

Many of the largest industrial concerns admit that in the past they have had little regard for the manner in which they dispose of their waste products.

Public health inspectors have a key roll to play in the future in facing the problems of pollution, as they are the only local authority officers who see the problem as a whole and its effects on the environment. The re-organisation of local government should be much more effective in this field of activity as the resources of the new district councils will be greater as regards both money and manpower. It is most gratifying that all the functions of the public health inspectorate are to remain with district councils apart from food sampling for quality control and labelling.

During the past nineteen years some ten thousand unfit houses have been dealt with in clearance areas, most of which have already been pulled down and members of the Council can look with pride at the re-development of such areas as St. Matthews (Wharf Street), St. Andrews (Have-lock Street, New Bridge Street), St. Peters and Highfields North (Upper Conduit Street) and envisage with satisfaction future schemes involving West End, Charnwood and Morton Road. The proposed extension of the Royal Infirmary and the establishment of a Medical School in conjunction

with the University of Leicester has been greatly facilitated by clearance of unfit housing in the Walnut Street area.

The Council's Slum Clearance Programme will be completed in 1975, although of course there will be small areas of unfit housing demanding attention from time to time.

The emphasis from now on must be in the improvement of houses and their environment and it is my fervent hope that there will always be a place for the public health inspectorate in this field. It should not be forgotten that they did their utmost to make the Housing Act 1964 work despite its shortcomings and selected the districts containing the houses meriting improvement. A report on this subject was approved by the Council in 1966.

For a year or two now the Annual Report has included particulars of a dramatic reduction in smoke pollution and ground level sulphur concentration from industrial, commercial and domestic sources. The smoke control areas programme will be completed in 1975 and the whole city will be covered. The firm line which the Health Committee has always taken in securing adequate heights of all new chimneys for all boiler plant other than the smallest installations has made a marked contribution to the reduction of sulphur compounds in the air.

Over the years following the last war high standards have been achieved in the field of food inspection and food hygiene and the citizens of Leicester can be assured that in this respect they are as well served as any town or city in Europe despite the irresponsible and alarming comparisons which are sometimes made.

The re-organisation of local government with fewer units of administration will no doubt be followed by internal re-organisation. After forty-six years' service including 27 years as a Chief Public Health Inspector in all-purpose authorities, I am convinced that if the best interests of the people of Leicester are to be served, the entity of the Department must be preserved. The position of the Chief Public Health Inspector must be such that he will always

have the right to bring to the notice of the Council any matters of special importance in the interests of environmental hygiene however inconvenient that may be. Further all the citizens of the City, particularly householders, must always have access to an officer and department to whom complaint of any appropriate nature can be made.

Finally I would like to thank all members of the Council and their Chief Officers for their courtesy and help over the years. Particularly I would like to thank Dr. Moss and all my own staff for their unfailing support. I like to feel that I am leaving a happy department and at the same time an efficient one.

I congratulate Mr. C. W. Stacey on his appointment as my successor and wish him well.

Unfit houses—Clearance Areas

During the year 18 clearance areas were reported to the Council through the appropriate Committee. This involved 611 houses.

Repair and Maintenance

Prior to the Housing Act 1969 there had for a long time been a general criticism that controlled rents were too low to allow owners to adequately maintain their properties. It seems difficult to understand that whilst many owners have taken advantage of the Housing Act 1969 to obtain increased rents where a controlled tenancy house is in good repair having regard to age, character, locality, and has improved amenities (bath, wash-hand basin, sink, hot water supply and internal water closet), that all owners who are entitled to apply for this rent increase have not yet done so.

The following table indicates the action that has been taken in respect of the issue of Qualification Certificates to landlords to increase their rents.

Housing Act 1969		
<i>Applications for qualification certificates</i>		
Houses where improvements required		104
Certificates of provisional approval issued		97
Qualification certificates issued		28
Houses where amenities already provided		173
Qualification certificates issued		121

House Improvement

When the Housing Act 1969 became law it had been estimated that there were 14,000 houses in Leicester which lacked one or more of the basic amenities, viz: bath, wash-hand basin, hot water system and internal water closet.

The Housing Act 1969 based improvement proposals on a much improved grant scheme and a policy of persuasion and co-operation with landlords, tenants and owner occupiers, although the rights of tenants to demand house improvement is continued. For the first time environmental uplift was provided for in the declaration of general improvement areas.

The Chief Public Health Inspector designates and surveys areas suitable for improvement, the City Planning Officer deals with environmental matters and the Housing Manager is responsible for improvement grants.

The first General Improvement Area containing over 1,700 houses was accepted by the Council in January 1971. In this area 850 houses lacked one or more of the standard amenities, 315 of this total lacked only inside toilets. As the result of a big publicity drive, including an individual approach to all owners and tenants by the Health Department, 193 grant applications had been received by the Housing Manager at the end of the year. This figure can be considered satisfactory when it is realised that a substantial number of householders are elderly and are hesitant about improvements on account of the upheaval in their homes. However,

it is confidently expected that as houses become modernised many persons who are not interested at the moment will eventually become so. Further, as houses are vacated improvements will certainly follow.

The Department is negotiating with landlords in respect of 161 dwellings where tenants have asked for improvements. In the last resort the Health Committee can deal with any of these owners who do not co-operate under Section 19 of the Housing Act 1964.

Including the Clarendon Park General Improvement Area, a total of 4,395 houses lacking one or more of the standard amenities have been surveyed during the year and the advantages of house improvement brought individually to the notice of owners and tenants. At the end of the year there had been grant applications in respect of approximately 10% of these houses.

The following table indicates the work that was carried out under Section 19 of the Housing Act 1964, which enables tenants to ask for statutory action to have their houses improved. Owners have the right to ask the Council to purchase these houses if they do not wish to carry out the improvements. From the table it will be seen that seven such houses were purchased during the year. In addition, two houses were improved by the Department in the default of the owner.

Housing Act 1964—Section 19

*Compulsory Improvement of Dwellings to provide
Standard Amenities*

Undertakings given	33
Improvement notices served	148
Improvement works completed	72
Improvement works completed in default	2
Purchase of houses	7

Multiple Occupation

During the year continuous action was taken under the Housing Acts 1961-64 to improve conditions in houses in multi-occupation.

Statutory notices for the improvement of management conditions, provision of amenities and fire escapes were served in respect of 263 houses. Legal action for non-compliance with these requirements was taken in relation to five houses. A landlord was fined £50 for an offence under the Housing (Management of Houses in Multi-Occupation) Regulations, 1962. A landlord and wife were fined £15 each under the Housing Act, 1961, for allowing more than the maximum number to occupy their boarding house. Fines of £10 each were imposed on two landlords for failing to comply with undertakings not to let parts of houses where means of escape in case of fire were required. Another person was fined £50 for non-compliance with a notice requiring means of escape in case of fire.

Certificates of availability of accommodation

For some time a public health inspector has been responsible for the inspection of houses for the purpose of stating whether there is sufficient accommodation for the relatives of immigrants to reside with them. The Health Department insists on documentary evidence being produced that this service is required and such evidence comes from various sources, e.g. British and Indian High Commissioners, Home Office, and Immigrant Advisory Centre.

Animals in houses in multiple occupation

An increase in the number of complaints regarding the keeping of dogs and cats in houses in multi-occupation was noticed during the year. The complaints come from the owners of the houses in question as well as the occupants of the houses.

With regard to the keeping of dogs, the cause of complaint was excessive noise and the fouling of yards and

common parts of the house. In the case of cats the usual complaint was the number of animals kept. In one instance 8 cats were left all day in a first floor flat and in another an elderly gentleman kept 27 cats in his single bed sitter. This type of accommodation can lead to problems in the keeping of domestic pets such as dogs and cats, particularly if they are left for long periods, but all complaints brought to the department were satisfactorily resolved.

Fire escapes and undertakings

An amendment to the Building Regulations 1965 has resulted in the specification for external fire escapes being revised. As from 1st November 1970, such erection has to be constructed in non-combustible materials. In most cases the use of metal is required and considerably increases the cost of fire escapes and has resulted in more owners of houses in multiple occupation negotiating with their neighbours to provide internal means of escape. It was anticipated that as a result of these more stringent requirements the number of Undertakings given by owners to vacate rooms so that means of escape in case of fire would not be necessary, would increase. As the following yearly figures show, this was not the case.

1968 (15) 1969 (64) 1970 (59) 1971 (38)

Highfields Area

During the year in conjunction with other Departments, increased attention was given to the problems of the Highfields area of the city. In an endeavour to improve conditions in this area and to control multi-occupation over the whole city, a registration scheme was prepared for implementation on April 1st 1972. This will give more power to control the spread of multi-occupation and the over occupation of existing houses. The appointment of an additional specialist public health inspector and technical assistant was approved to help with this Scheme.

The area was also surveyed with a fresh approach to owner/occupiers and tenants about the improvement of houses.

Accumulations of refuse, a considerable problem in this area, were dealt with in co-operation with the City Engineer. Yards and vacant sites have been cleared of material and household refuse, some on more than one occasion. This is a problem which needs constant attention.

Multiple occupation

Number of notices served	404
Number of properties involved	263
<i>The following improvements were made</i>	
Ventilated food stores	125
Improved ventilation	127
Hot/cold water supply	110
Bath/showers	124
Additional sinks	98
Artificial lighting points	47
Additional space heaters	5
Fire escapes/smoke stop arrangements	190
Additional cookers	96
Intervening ventilated space	15
Additional water closets	3

In addition, 38 Undertakings were accepted not to use parts of houses in multiple occupation for human habitation where adequate provision had not been made for means of escape in case of fire.

New House Building in Leicester

	1971	1970	1969	1968	1967
By Housing Committee	481	287	202	555	491
By Private Builders	376	535	505	455	398
By Housing Associations	57	—	—	—	—
	914	822	707	1010	889

Since 1946 the Council has built 18,837 houses and flats.

Property enquiries

6,797 enquiries were answered relating to the expectation of life and outstanding repair notices on dwelling houses which were changing ownership, offered to the Council for advance purchase, or subject of applications for improvement grants.

This is almost one thousand more than last year.

Common Lodging House

The one common lodging house in the City closed during the year when the owners decided to sell the premises.

The building is in a structurally poor condition and it was not considered an economic proposition to convert it into suitable accommodation of modern standards for single homeless men.

There is a need for such accommodation in the City and the Director of Social Services has the matter under consideration.

Drainage, sanitation and water supply

During the year the number of houses lacking a separate internal water supply or a separate water closet was further reduced, viz:

4 houses without an internal water supply

107 houses sharing water closets

These houses were in confirmed clearance areas.

In 228 cases renewal of sanitary appliances or drainage works were carried out in default of the owners. The total cost of these was £1,426.35p.

Two bathroom conversions were carried out in default of the owners at a cost of £558.24p.

City Drinking Water

A total of 129 samples of water for bacteriological examination were taken throughout the year at a large variety of

supply points in the city: these included school kitchens, cafes, day nurseries, food shops, offices, slaughterhouses and stand pipes and drinking fountains in parks.

Eleven samples were found to have a higher bacterial count than expected; as a result of some of these unsatisfactory samples a length of water main was cleansed and sterilised. In all cases after further treatment samples were satisfactory.

Swimming Pools

158 samples of bath water were examined for chlorine content and bacterial count during the year; these samples were taken from 7 Corporation indoor baths, 2 privately owned outdoor pools open to the public, 4 indoor baths, and one outdoor swimming pool at schools. In addition, samples are now being taken from an indoor pool for the use of residents at an hotel.

The samples taken at the Corporation baths were found to be satisfactory at all times.

At the other pools the water was tested at the side of the bath for chlorine content and acidity and if necessary a sample was taken to the Public Analyst for bacteriological examination. When the chlorine content, acidity or clarity was found to be unsatisfactory, advice was given on the spot and immediate adjustments made.

Caravans—itinerrants

The problems arising from itinerants are still with us, although action has been taken mostly by the City Estates Surveyor, as the caravans are usually found on land owned by the Corporation.

The Council has now contracted for the construction of a site for 15 caravans at a cost of £48,103, thus meeting their obligation under the Caravan Site Act 1968. The site should be available in the autumn of 1972.

Showmen's Guild Site

This site for 30 caravans used during the winter months by members of the Showmen's Guild continues to give no trouble.

Offices, Shops & Railway Premises Act 1963

Registration and Inspection

Inspections under the Act continued at approximately the same rate as in 1970. 186 premises were newly registered and the total number of registered premises is 3,700. A review of the classification of all registered premises was carried out during the year. Three-quarters of the premises registered received at least one general inspection during the year.

467 contraventions of the Act were noted and brought to the attention of occupiers.

Cleanliness	24
Temperature	98
Ventilation	9
Lighting	24
Sanitary Conveniences	48
Washing Facilities	24
Clothing Accommodation	1
Sitting Facilities	1
Seats (sedentary workers)	2
Floors, passages and stairs	59
First Aid	177
Total	467

The above table with contraventions averaging 0.13 for each general inspection of premises, is an indication that working conditions are generally satisfactory.

Accidents

97 accidents were reported during the year, none of which was fatal. A large multiple firm of footwear manufacturers operating the largest warehouse of its type in Europe accounts for a large proportion of these reported accidents. The degree of mechanical handling at this warehouse is very high and the following accident occurred which is of general interest.

An employee was using a pallet truck to tow a line of three wire mesh bins. All the bins were on wheels and the first one had been placed on the forks of the truck where it was being held by friction only. The other bins were connected to it and each other by straps. As the truck was proceeding through the warehouse the first bin came off the forks, whereupon the driver braked sharply.

The driving position is on a spring-loaded platform on the front of the truck and the sudden application of the brakes caused the truck to tip forward on top of the driver who sustained a compound fracture of the right leg. Investigation showed that the centre of gravity of the truck was such as to render it unstable. It was found that the rollers of the forks could be easily made to lose contact with the ground by sudden acceleration of the truck or by sudden application of the brakes.

After representations by the Chief Public Health Inspector to the occupiers of the warehouse and the manufacturers, the truck was modified by extending the forks by 18 ins. to allow space for a driving platform to be fitted between the load and the motor housing. A barrier was fitted to prevent the load moving forward on to the driver. The modification has been successful in making the truck stable.

Outworkers

During 1971 outwork in 460 homes in the City was notified to the local authority as required by the Factories Act. Firms employing outworkers are required to send details to the local authority in February and August every year.

Accidents	Class of premises	Offices	Retail Shops	Wholesale Shops and Warehouses	Catering Establishments and Canteens	Fuel Storage Depots	Total
	Number of accidents reported	8	27	46	15	1	97
	Number of accidents investigated	6	23	23	13	1	66
	<i>Causation</i>						
	Machinery	.	1	.	1	.	2
	Transport	.	.	4	.	.	4
	Falls of persons	5	8	15	5	.	33
	Stepping on or striking against object or person	.	1	8	2	.	11
	Handling goods	1	4	8	3	1	17
	Struck by falling object	1	7	8	1	.	17
	Fires and explosions	.	.	.	.	.	.
	Electricity	.	.	.	.	.	.
	Use of hand tools	.	3	.	.	.	3
	Not otherwise specified	1	3	3	3	.	10
	<i>Injuries sustained</i>						
	Fractures and dislocations	.	3	6	1	.	10
	Sprains and strains	3	4	16	4	1	28
	Open wounds/surface injury	1	12	5	4	.	22
	Bruising and crushing	4	7	18	4	.	33
	Burns	.	.	.	2	.	2
	Multiple injuries	.	.	1	.	.	1
	Foreign body in orifice	.	1	.	.	.	1
	<i>Action taken</i>						
	Prosecutions	.	.	.	.	.	.
	Formal warnings	.	.	.	.	.	.
	Informal advice	7	22	24	13	1	67
	None	1	5	22	2	.	30

Environment Pollution

Domestic Smoke Control

The Smoke Control programme received a further setback as a result of objections to Nos. 28 and 29 Smoke Control Orders.

Four objections were lodged with the Department of the Environment in respect of No. 28 Order and one in respect of No. 29 Order. All the objectors were visited by the Divisional Public Health Inspector in an attempt to resolve the difficulties informally. While he was courteously received in each instance, each of the persons interviewed declined to withdraw and the matter had to be resolved by a Public Inquiry. This was held in the Town Hall on 10th August 1971. Only one of the objectors appeared to give evidence. One other was represented by a friend who was allowed to give evidence on her behalf. The matters raised by the objectors were concerned with shortage of fuel, disturbance caused by works of adaptation, alleged health hazards resulting from the burning of smokeless fuels, unnecessary expense incurred by conversion and deferment of the Smoke Control programme.

One member of the public who attended as an interested party was allowed to make a statement. In it he said that he had seen democracy in action by the holding of the Inquiry to hear the objections of only 4 people. He commented that it was remarkable what progress could be held back because of the people. He expressed concern that the Council were obliged to delay the operation of the Order until 1972. The Inspector reported in favour of the Orders being upheld and they were confirmed on 24th November 1971, to become operative on 1st July 1972. This represents a delay of 7 months in the scheduled programme, but it is hoped that subsequent Orders will proceed as scheduled, in which case the target date for completion by 1975 will still be met.

The supply position for solid smokeless fuels is much improved since last year and ample supplies are now

available. The Rexco plant at Coalville is in production and consolidates the situation as far as Leicester is concerned.

Industrial Smoke

568 observations were carried out on industrial premises and 33 statutory notifications of smoke offences under the Dark Smoke (Permitted Periods) Regulations 1958 and the Clean Air Act 1968 were served. In addition, 133 informal notifications were given.

Once again, industrial bonfires feature prominently in the statutory smoke offences. 81 such fires were observed and of the statutory notifications for smoke offences 21 were in respect of dark smoke from such bonfires.

The practice of burning out houses in clearance areas by demolition contractors has given particular cause for concern. On one occasion 27 burning houses on the Charnwood demolition site were observed by the Chief Public Health Inspector and the Chief Fire Officer, giving rise to serious low level smoke pollution.

In co-operation with the City Engineer a letter was circulated to all demolition contractors informing them that this practice would render them liable to prosecution under the Clean Air Acts.

4 successful prosecutions were heard during the year. 2 were in respect of dark smoke from a scrap dealers premises and 2 in respect of dark smoke from demolition sites. Fines totalling £175 were imposed.

New Furnace Installations

73 applications for approval of chimney heights were received. These involved the installation of 93 furnaces. 39 of the applications were in respect of gas fired installations, 31 in respect of oil fired and there were 3 incinerators. It is notable that for the first time in many years no new coal fired plant was installed. This is mainly attributable to the advent of natural gas which, because of its ease of handling and its suitability for completely automatic firing,

has many attractions for industrialists. It is also, of course, a very clean smokeless fuel.

Grit and Dust

Eleven complaints of grit emission involving 5 premises were received. In one instance a serious grit nuisance from a large coal fired steam raising plant was abated when the plant was converted to gas firing.

Fumes and Vapour

An incident involving plant damage in Repton Street and on the Groby Road Allotments focussed attention on the widespread effects on the local environment of industrial emissions.

The plants affected exhibited abnormalities similar to those which result from the application of hormone type weed killer. After a prolonged and intensive investigation it appears that emissions of fume and vapour from the textile dyeing and finishing industry could cause similar damage, but the evidence so far is not conclusive.

The situation is being kept under very close surveillance and the dyeing industry have been requested to co-operate by examining the possible effects on the environment of all of the chemicals used by them.

Noise

115 complaints of noise were received. These involved 102 premises and upon investigation 35 were found to be justified. 3 statutory notices were served under the Noise Abatement Act 1960 and the remainder of the complaints were dealt with informally.

The problem of noise is one which is receiving a great deal of attention at present. Background noise levels are increasing at a rate which is estimated to be such that in

10 years' time they could be twice and possibly four times as loud as they are today.

At present the only legal measures open to the local authority for minimising noise are those contained in the Noise Abatement Act which deals mainly with noise as a nuisance.

If the rate of increase is to be halted, let alone reduced, much wider powers are required. The prevention of noise is a more effective way of dealing with ambient noise levels than the abatement of nuisance. It is also very often easier to achieve.

The Working Group of the Noise Advisory Council issued their Report entitled "Neighbourhood Noise" in October. In it they make a number of recommendations for the prevention of noise, including a new Noise Abatement Act. The Act they envisage would give the local authority powers to impose requirements for the limitations of noise on building and demolition contractors; it would make it an offence to sell machinery which made noise in excess of a specified level; the use of unsilenced road drills and other mobile machinery would be prohibited and there would be a general duty imposed on everyone—owners and occupiers of premises and any person on the premises—to use the best practical means to minimise noise. An entirely new concept of Noise Abatement Zones is proposed. Within these zones local authorities could impose maximum limits for noise emission.

The Report also recommends that planning authorities should consult public health authorities on the noise implications of planning proposals.

In Leicester we already enjoy a degree of liaison with the Planning Department's control section. This has already resulted in noise abatement measures being carried out before premises are occupied.

Not only is nuisance avoided in this way, but it prevents any increase in background noise levels from occurring in the areas concerned.

The following analysis of noise complaints shows the extent of the problem.

General industrial noises	32
Commercial premises	20
Domestic noises	44
Roadworks	6

Consumer Protection

During the past year the trend towards 'dead date' coding all perishable food has continued and indeed has speeded up; many of the larger manufacturers now have a simple code which is easy to interpret by the retailer. The 'dead date' is the date after which food should not be sold. In a number of cases manufacturers and even supermarkets have gone a stage further and are printing the actual date on the food after which it should not be sold.

It is surprising, however, that a considerable number of smaller shopkeepers still ignore 'dead dates' or profess no knowledge of them and more education is needed in this direction.

When pre-packed perishable foods are not coded or are packed on the premises, shopkeepers are being persuaded to date or colour code these products to ensure correct rotation; as stated last year, it is not enough just for the fresher products to be placed at the back of self-service shelves in the hope that not so fresh products at the front will be sold first.

Milk and Dairies

The further reduction in the number of milk samples compared with previous years was again justified, as all samples were found to be satisfactory as regards chemical quality, keeping quality and efficiency of pasteurisation.

In all, 498 samples were taken during the year which included bottled and cartoned, pasteurised, sterilised, Channel Island and Ultra-Heat treated milks.

Food and Drugs

A total of 1,269 food samples were taken during the year of which 90 or approximately 7% were unsatisfactory; these samples were taken from a wide range of types and brands of food. New products are looked for continually and promptly sampled.

67 samples of drugs were taken of which 6 were found to be unsatisfactory.

In the case of unsatisfactory samples, full investigations are made with the manufacturer, importer, packer or retailer and continued until satisfactory explanations are received and assurances given that the products in future will comply with labelling and compositional requirements. One prosecution for sausages deficient in meat content was taken in the Magistrates Court and was successful.

Trades Description Act 1968

A successful prosecution was taken under the Trades Description Act 1968 in co-operation with the Public Protection Department; the case was against a large fish wholesaler outside the City and was in regard to coalfish fillets being sold as haddock fillets.

The fish had been supplied under contract to an Old People's Home in Leicester, but as the sale had taken place outside the City, action could not be taken under the Food and Drugs Act 1955.

Full details of satisfactory and unsatisfactory samples appear in the City Analyst's section of this report.

The number of complaints brought to the department regarding unsatisfactory foods has again increased and the total of 308 in 1971 was approximately three times the figure of four years ago.

In 8 cases the complaints were sufficiently serious as to justify legal proceedings and the following successful prosecutions were taken:

1. Mouse dropping in trifle
2. Metal in sweet lollipop
3. Mouldy fresh cream dessert
4. Metal in pork pie
5. Mouldy sausage rolls
6. Decomposed chicken piece
7. Mouldy chocolate éclair
8. Mouldy steak and kidney pie

The increase in the number of complaints is not so much an indication of more purchases of food being unsatisfactory, but is rather due to the greater vigilance of the consumer and increased concern that all foods offered for sale shall be wholesome and of the quality demanded. People are becoming more appreciative of the valuable work done by public health inspectors in dealing with the wide range of irregularities that can occur in food stuffs offered for sale.

All substantiated complaints are investigated, starting at the point of sale and going back to the manufacturer if necessary. Some of these investigations take a long time to complete.

Details of Food Complaints

Bread	51
Flour confectionery	30
Milk	24
Meat pies and pasties	19
Fish	19
Cooked meats	16
Meat	15
Canned fruits	14
Canned vegetables	13
Cheese	12
Canned meats	7
Sausages	6
Potato crisps	6
Fresh fruit	4
Butter	4
Other foods	68
Total	308

Slaughter of Poultry

Visits are made by public health inspectors to the two premises where poultry are slaughtered daily. Approximately 400,000 birds were dealt with during the year, mostly hens and chickens sold fresh and uneviscerated. Less than 0.5% were rejected as unfit mainly for emaciation and deformities. These are rejected by experienced staff and doubtful cases are left for the daily visit of the public health inspector.

In eleven butchers' shops about 1,200 poultry are slaughtered each week for the Muslim community. Control of hygiene is difficult in these shop dwellings; regular weekly visits are made and as often as possible when slaughtering is in progress. All such premises are required to keep a separate room for the exclusive purpose of slaughtering.

A successful prosecution was taken against an Asian poultry slaughterer for 12 contraventions of the Food Hygiene (General) Regulations 1970. Fines of £120 were imposed.

Joint visits with the District Veterinary Officer of the Ministry of Agriculture, Fisheries and Food were made during the year to secure compliance with the Slaughter of Poultry (Humane Conditions) Regulations 1971.

Meat inspection

Slaughtering

There are four licensed slaughterhouses at the Cattle Market at which slaughtering is limited to the periods 7 a.m. to 7 p.m. on Mondays to Fridays, and 7 a.m. to 1 p.m. on Saturdays. There is one licensed slaughterhouse on the Thurmaston side of the City at which killing is permitted up to 8 p.m. on one evening each week.

A 100% inspection was carried out in accordance with the provisions of the Meat Inspection Regulations on the 172,121 animals which were slaughtered and 53 tons of meat and offal were found to be unfit for human consumption.



Public Health Inspector inspecting poultry

Meat Inspection Standards

Towards the end of the year a statement was made at a Press Conference called by the British Veterinary Association that British people ran a greater risk of food poisoning than consumers in E.E.C. countries, because of the low standard of meat inspection in abattoirs in this country.

In the sensitive field of public opinion concerning food, a highly contentious statement such as this was given immediate and widespread publicity by the press, radio and television services. The reaction to the allegation from responsible organisations such as the Ministry of Agriculture, the National Farmers Union and the Association of Public Health Inspectors was also immediate and condemnatory. In the House of Commons the Minister of Agriculture in reply to a question agreed that the standards of meat inspection carried out by health inspectors in this country was as good as, if not better than, those on the Continent and that the job done by the public health inspectorate was absolutely first class.

The B.B.C. through the local station, Radio Leicester, broadcast an interview with the President of the British Veterinary Association on the subject of meat inspection and Mr. John Morris, Divisional Public Health Inspector, was invited to reply and to reassure the public that there was not one scrap of evidence to support the somewhat alarming allegation that had been made.

Thanks must be expressed to Radio Leicester for the opportunity given to the Department to allay any fears that there might have been in the minds of consumers.

Imported Meat

During the year 294 containers of imported meat were examined in accordance with the provisions of the Imported Food Regulations 1968. The total weight of imported meat and offal found to be unfit for human consumption was nearly 3 tons.

Meat Hygiene

Advances in meat hygiene are a continuing process and a high standard of hygiene is maintained at the slaughterhouses in the city. Tribute must be paid to the meat trade for their responsible attitude towards the maintenance of this high standard.

The installation of new equipment to improve standards in slaughterhouses is invariably very costly and the ready co-operation of the meat trade in adopting new techniques to keep abreast of advances in meat hygiene must be acknowledged. The need for the highest standards in the handling of meat extends beyond the slaughterhouse to the delivery vehicles, meat processing plants, retail shops and in the kitchen and it is in this field that the education of persons engaged in the distribution and preparation of meat is most important.

Education Facilities

The addition of a lecture room to the Meat Inspector's Office at the Cattle Market has improved greatly the facilities for lectures and demonstrations to students. During the year 160 students attended such lectures.

Anatomical specimens were supplied to the University, Colleges and Schools for research and instructional purposes.

Contract Food Supplies

During the year 132 visits were made to schools, colleges and other establishments within the city in connection with meat supplies. Apart from minor discrepancies the meat supplied was in accordance with the conditions of the contracts.

In addition fish supplied on contract to premises controlled by the Education and Social Services Departments was regularly inspected. A small number of consignments were condemned as unfit and in some cases the fish supplied was not as the contract and invoices stated. These

irregularities were brought to the attention of the Central Purchasing Department and as stated elsewhere in this Report, legal proceedings were taken in respect of one consignment.

Food

Food Hygiene

There are 3,001 premises in the City which are subject to the Food Hygiene (General) Regulations 1970 and for which inspection targets have been laid down and approved by the Health Committee. The targets for premises where food is handled vary with the risk involved. For example, the aim is to inspect grocers twice, while cafes and restaurants receive a quarterly visit. It is considered that this is the minimum number of visits required and obviously some premises need more. It was possible during the year to meet these targets.

Shops

Very little unwrapped food is now on display in grocers, bakers and confectionery shops. Problems remain in the butchery trade, particularly with the need to separate raw meat from cooked meat, the use of separate utensils for this purpose and greater care in poultry preparation.

In general in the retail food trade standards have improved tremendously since the Food Hygiene (General) Regulations came into force in 1955. Some unsatisfactory practices and habits, however, remain. Examples of these are:

- 1 the handling of cooked food instead of using tongs or paper.
- 2 the display of raw and cooked foods in close proximity to each other.
- 3 the over ordering of perishable foods such as meat pies and similar products which have a considerable food

poisoning risk and the frequent absence of refrigerated displays.

It is unfortunate that more customers do not complain when they notice practices which are obviously unsatisfactory.

Legal proceedings were taken against a national company operating a large chain of supermarkets. The dirty condition of the premises and equipment resulted in fines of £200.

Restaurants

The number of restaurants and eating places continues to increase. More firms are opening chains of restaurants of a standard design throughout the country and these do not generally present many problems. Staff of the right type and calibre are difficult to obtain and consequently supervision of kitchen hygiene continues to require constant attention by public health inspectors.

During the year architects and owners continued to consult the Department on the construction of new premises and the alteration of others. The advice given at the planning stage ensured that the premises complied with food hygiene requirements when business commenced.

Mobile Food Shops

There are 125 mobile food shops registered by the Leicester Corporation Act 1968. Regular inspections are made for compliance with the Food Hygiene (Markets, Stalls and Delivery Vehicles), Regulations 1966, and enforcement is made easier by registration.

The control of vehicles selling hot dogs late in the evening in the City centre, at football matches and outside other places of entertainment necessitated inspections outside normal working hours. Two successful prosecutions for unsatisfactory vehicles were taken resulting in a total of £108 in fines.

Food Hygiene (General) Regulations 1970

Premises covered by the Regulations	
Grocers and supermarkets	761
Licensed premises	197
Butchers shops	264
Fruiterers and greengrocers shops	130
Fishmongers and fried fish shops	111
Bakeries	22
Confectioners shops	331
Hotels, restaurants and cafes	445
Factory canteens, school meals preparation kitchens	704
Food warehouses and factories	36
Total	3001

Health Education

The continuing demand for lectures and demonstrations to school children and to students undertaking further education courses has been encouraging. A most valuable contribution has been made in the environmental hygiene studies of fifth and sixth formers undertaking human biology and some economics courses. The practical emphasis resulting from the public health inspectors' presentation of such subjects as housing, air pollution, water supply, sewage and refuse disposal, food contamination and food inspection and hygiene has proved highly successful. The resultant awareness of an inter-action between the many facets of environmental hygiene has proved beneficial and has been appreciated by teachers.

The developing work with examination classes is most pleasing. No less gratifying, however, have been the talks given to pupils in Junior Schools. To see 10 and 11 year olds showing an awareness of the need for a healthy environment is indeed rewarding. Similarly, it has been encouraging to note the interest taken in environmental studies by teenagers who were not preparing for examinations.

The Department's growing library of 35 m.m. slides is invaluable in enlivening otherwise technically difficult subjects. Slide series comprising the library include the

many aspects of food spoilage and safety, housing, water, refuse, sewage, air pollution (global and local), insect pests and aspects of the Offices, Shops and Railway Premises Acts. The cartoon presentation of some accidents which occur in places of work has proved helpful when speaking to employees.

A large proportion of the slides has been prepared within the Department and it is expected that the library will be further enlarged to meet future health education needs. In addition, a collection of specialised colour slides has been built up for use by the meat inspection section. These photographs depict a comprehensive range of diseased and abnormal conditions of meat and are of great assistance, particularly in the training of student public health inspectors.

It is regretted that there were insufficient students to support the Course in the Hygiene of Food Retailing and Catering at South Fields College during the 1971-72 session.

It is pleasing to report a 100% success rate in the previous year's Royal Society of Health examination in this subject.

It is expected that the Course will be revived in the next College session.

Pest control

3,208 complaints of rats and mice were dealt with during the year by the Pest Control Officer and his staff. In addition routine control was carried out at all agricultural holdings, including allotments and along water courses.

Private dwelling houses are treated without charge for rats, but in the case of mice a standing charge is made, with exceptions for old people and in cases of hardship. Economical charges are made for the treatment of business premises.

During the year the local authority was represented by the Deputy Chief Public Health Inspector on the S.E. Leicestershire Rat Control Committee and three meetings were



Public Health Inspector teaching Food Hygiene to College Students

attended. Useful discussions took place at this Committee with representatives of other local authorities in Leicestershire, the Ministry of Agriculture, Fisheries and Food and the National Farmers' Union.

Some difficulties were encountered with mice on premises, such as warehouses and food premises when the ambient temperature is regularly above 65° F and where there was a good supply of food for the mice.

Under these conditions alpha-chloralose, the poison bait which is in regular use is not entirely satisfactory as the action depends on the loss of body heat by the mice. Pre-baiting and warfarin as an alternative poison have been tried with some success. There is, however, evidence of increased resistance of mice to anti-coagulant rodenticides with the result that the number of premises infested by mice has increased in recent years.

Insect Control

772 complaints were received during the year. A charge was made for the treatments with the exception of those in which old people were involved and those which concerned cases of hardship.

During the year the Department co-operated with a well known national firm of pesticide manufacturers in field trials of a new cockroach insecticide. These were successful and the product is now on the market.

Control of feral pigeons

Nuisance from feral pigeons was again evident during the year. 668 pigeons were destroyed by using alpha-chloralose as a narcotic and then gassing the doped birds within the fumes of carbon tetrachloride. This method is approved by the Ministry of Agriculture, Fisheries and Food and two of the Department's operators hold licences for this work.

Legal Proceedings							Fine	
Statutes under which proceedings instituted							Default or offence	£
Food and Drugs Act 1955, Section 2							Mouse droppings in trifle	25.00
"	"	"	"				Sausages deficient in meat content	50.00
"	"	"	"				Metal in pork pie	50.00
"	"	"	"				Metal in lollipop	20.00
"	"	"	"				Mouldy Cream Dessert	50.00
"	"	"	"				Mouldy chocolate eclair	25.00
"	"	"	"				Mouldy steak & kidney Pie	80.00
"	"	"	"				Mouldy Sausage Rolls	60.00
"	"	"	"				Unfit Chicken (decomposed)	50.00
Food Hygiene (Gen.) Regs. 1970							12 Contraventions	120.00
"	"						25 Contraventions	200.00
Food Hygiene (Markets, Stalls & Delivery Vehicles) Regs. 1966							Smoking whilst handling food	5.00
"	"	"	"	"	"	"	" " "	5.00
"	"	"	"	"	"	"	" " "	10.00
"	"	"	"	"	"	"	" " "	35.00
"	"	"	"	"	"	"	Dirty condition of hot dog vehicles	108.00
Trades Description Act 1968							Wrongful labelling of food	20.00
Housing Act 1961							Contravention of undertaking not to let parts of house	10.00
"	"						" " " " " "	10.00
"	"						No means of escape in case of fire	50.00
"	"						Non-compliance of Management Order	50.00
"	"						Overcrowding	30.00
Clean Air Act 1968							Emitting dark smoke	40.00
"	"						" "	75.00
"	"						" "	40.00
"	"						" "	20.00

Lectures 1971		
Students	No. of lectures	Total students attending
Lectures on employers' premises		
Catering personnel	21	114
Other food personnel	3	170
Others	5	51
Lectures & Demonstrations to students undertaking further education		
Butchery personnel	6	28
Other food personnel	20	200
Students other than food handlers	34	721
Professional trainees		
Student nurses	15	144
Student district nurses	2	24
Student health visitors	4	100
Others	34	364
Lectures & Demonstrations to School Pupils		
G.C.E, O & A level & C.S.E. Courses	42	705
Others	15	333
Professional meetings and other outside organisations		
	17	716
Total	218	3670

General Sanitary Circumstances	
Complaints received and recorded	
Housing defects	1052
Blocked and defective drains and sewers	414
Defective water supply	26
Flood water in houses	73
Overcrowding	28
Caravans	9
Keeping of animals	29
Accumulation of offensive matter	323
Factory conditions	3
Smoke nuisances	107
Grit nuisances	11
Fumes and steam	36
Noise nuisances	123
Offensive odours	145
Food hygiene regulations	29
Insects, pests and wasps	772
Rats and mice	3208
Feral pigeons	19
Miscellaneous	154
Total	6561

Housing: Clearance areas reported to the Council through the Housing Committee

Area No.	Name	C O or C P O	No. of Houses	Other buildings
405	Gt. Holme Street No. 3	C P O	322	.
406	Dane Street	C P O	2	.
407	Andrewes Street No. 1	C P O	4	.
408	Andrewes Street No. 2	C P O	11	.
409	Hinckley Road No. 1	C P O	2	.
410	Hinckley Road No. 2	C P O	1	.
411	Hinckley Road No. 3	C P O	1	.
412	Hinckley Road No. 4	C P O	1	.
413	Hinckley Road No. 5	C P O	2	.
414	Hinckley Road No. 6	C P O	1	.
416	Gt. Holme Street No. 4	C P O	1	.
417	Gt. Holme Street No. 5	C P O	5	.
418	Noble Street No. 1	C P O	1	.
419	Noble Street No. 2	C P O	247	.
420	Tudor Road	C P O	1	.
421	Clara Street	C P O	6	.
422	King Richards Road No. 1	C P O	1	.
423	King Richards Road No. 2	C P O	2	.
Totals			611	Nil

Slum clearance

	Representations		No. of houses	
	C O	C P O	in orders	Confirmed
1953	.	1	270	270
1954	.	5	670	664
1955	.	6	155	123
1956	14	7	577	282
1957	23	11	1076	534
1958	27	24	769	645
1959	2	11	1104	716
1960	4	19	519	1118
1961	3	4	576	344
1962	.	6	240	801
1963	1	3	456	247
1964	1	32	801	54
1965	1	9	954	1061
1966	10	5	452	676
1967	3	5	239	579
1968	5	22	518	277
1969	4	6	274	731
1970	2	14	478	365
1971	.	18	611	642
	100	208	10739	10129

Area 415 – Leamington Street – withdrawn

Area 396 – The Green – withdrawn – A.R. 1970.

4 individual houses have been represented for demolition

Unfit houses dealt with individually

Individual unfit houses 1953-1971

Act under which action taken	Houses represented to Health Committee	Houses on which Order made	Statutory U/T not to re-let	Houses vacated	Awaiting removal
<i>Housing Act 1957, Sect. 17 – demolition orders</i>	393	361	25	389	4
<i>Housing Act 1957, Sect. 17 – closing orders</i>	80	80	.	79	1
<i>Housing Financial Provisions Act, 1958</i>	102	102	.	102	.
<i>Voluntary undertakings</i>	.	.	24	24	.
<i>Housing Act 1957 – closure of rooms</i>	8	8	.	.	.

Synopsis of inspection work	Inspections
<i>Housing :</i>	
Defects under Public Health Acts	4785
Under Housing Acts : Inspections	5008
Overcrowding	29
Improvement	7583
Land charge visits	1004
Houses in multiple occupation	4063
Rent Act 1957 : Certificate of disrepair	13
Drainage : Tests and inspections	4504
Infectious disease : Enquiries and disinfection	345
Infestation control : Rodent, insect and pigeon control	1755
Complaints (Nuisances) : Ditches and watercourses	62
Flooding	443
Keeping of animals	196
Offensive accumulations	2188
Offensive odours	543
Refuse tips	27
Factories	132
Offices, Shops and Railway Premises Act, 1963	4310
<i>Atmospheric Pollution and Noise :</i>	
Furnaces, boilerhouses and chimneys	1048
Smoke, fumes, dust and grit	1066
Smoke control areas	8895
Noise	1072
<i>Food Hygiene :</i>	
Shops : Meat, fish, fruiterers and greengrocers, confectioners	3193
Bakehouses	102
Fish frying premises	151
Food manufacturing premises	231
Food vendors' vehicles	290
Food warehouses	128
Ice cream premises	41

c/f 53207

	b/f 53207
Poultry processing premises	438
Hotel and restaurant kitchens	1395
Public houses and clubs	517
Factory canteens	1308
<i>Markets : Retail</i>	675
Wholesale	592
Cold stores	954
Dairies	237
Food vending machines	5
<i>Merchandise Marks Act</i>	450
<i>Sampling Visits : food, drugs, water, fertilisers and feeding stuffs, rag flock, swimming baths</i>	2097
<i>Food Inspection Complaints</i>	370
Unfit food	1304
<i>Other Registered and Licensed Premises :</i>	
Animal Establishments	133
Knackers' yards	10
Offensive Trades	60
Common Lodging House	6
Canal Boats	3
Pharmacy and Poisons Act, 1933	24
Hairdressers' premises	248
Van dwellings	102
Meetings with Owners and Tradesmen	3378
<i>Health Education : Lectures etc.</i>	281
Other Visits	504
	Total 68298
<i>Notices served</i>	Informal 1557
	Formal 1029
<i>Complied with</i>	Informal 1409
	Formal 674

Housing Statistics for year ended 31st December, 1971

(i) Unfit dwelling houses – inspection

1 a Total number of dwelling houses inspected for housing defects (under Public Health or Housing Acts)	5494
b Number of inspections made for the purpose	9587
2 a Number of dwelling houses (included under sub-head 1 above which were inspected and recorded under Housing Consolidated Regulations, 1925 and 1932)	709
b Number of inspections made for the purpose	1890
3 Number of dwelling houses found to be in a state so dangerous to health as to be unfit for human habitation	634
4 Number of dwelling houses (exclusive of those referred to under the preceding sub-heading) found to be not in all respects reasonably fit for human habitation	1398

(ii) Remedy of defects without service of Formal Notices

Number of defective dwelling houses rendered fit in consequence of informal action by Local Authority or its officers	750
---	-----

(iii) Action under Statutory Powers

A Proceedings under Sections 9, 10 and 16 of the Housing Act 1957

1 Number of dwelling houses in respect of which notices were served requiring repairs	.
2 Number of dwelling houses which were rendered fit after service of formal notices:	
a By owners	.
b By local authority in default of owners	.

B Proceedings under Public Health Acts

1 Number of dwelling houses in respect of which notices were served requiring defects to be remedied	353
2 Number of dwelling houses in which defects were remedied after service of formal notices:	
a By owners	264
b By local authority in default of owners	89

C Proceedings under Section 17 of the Housing Act 1957:

1 Number of dwelling houses in respect of which Demolition Orders were made	4
2 Number of dwelling houses demolished in pursuance of Demolition Orders	9
3 Number of houses dealt with under Housing Financial Provisions Act 1958	.

D Proceedings under Section 18 of the Housing Act 1957:

1 Number of separate tenements or underground rooms in respect of which Closing Orders were made	.
2 Number of separate tenements or underground rooms in respect of which Closing Orders were determined, the tenement or room having been rendered fit	.
Number of houses in respect of which Closing Orders were made under Section 17 of the Housing Act 1957	.
Number of houses dealt with under Sections 12 to 16 of the Housing Act 1961 (Houses in Multiple Occupation)	263

Improvement Grants

	Standard grants			Discretionary grants		
	During year 1971	During year 1970	Since commencement of scheme	During year 1971	During year 1970	Since commencement of scheme
Applications received	790	885	8486	927	387	3644
Approved by Housing Committee	624	648	6836	603	286	2579
	£	£	£	£	£	£
Amount of grants paid on applications approved	30645	41566	466176	91476	28795	357458
Amount to be paid by the Council	7661	10391	116518	22866	7198	89120

(From Annual Report of Housing Manager)

Rent Act 1957 Applications for Certificates of Disrepair

Part I – Applications for Certificates of Disrepair

1 Number of applications for certificates	7
2 Number of decisions not to issue certificates	1
3 Number of decisions to issue certificates	
<i>a</i> in respect of some but not all defects	Nil
<i>b</i> in respect of all defects	3
4 Number of undertakings given by landlords under paragraph 5 of the First Schedule	3
5 Number of undertakings refused by Local Authority under proviso to paragraph 5 of the First Schedule	Nil
6 Number of certificates issued	3

Part II – Applications for cancellation of Certificates

7 Applications by landlords to Local Authority for cancellation of certificates	2
8 Objections by tenants to cancellation of certificates	Nil
9 Decisions by Local Authority to cancel in spite of tenants' objection	Nil
10 Certificates cancelled by Local Authority	2

Offices, Shops and Railway Premises Act 1963

Registration of general inspections

Class of premises	Number of premises registered during year	Total number of registered premises at end of year	Number of reg. premises receiving a general inspection during year
Offices	72	1341	920
Retail Shops	73	1742	1346
Wholesale shops, warehouses	21	301	168
Catering establishments open to the public, canteens	20	385	385
Fuel storage depots	.	1	1
Totals	186	3770	2820

Number of visits of all kinds by inspectors to registered premises 4310

Analysis of persons employed in registered premises by workplace

Class of workplace	Number of persons employed
Offices	13299
Retail shops	10665
Wholesale departments, warehouses	3577
Catering establishments open to the public	2178
Canteens	20
Fuel storage depots	2
Totals	29741
Total males	14444
Total females	15297

Outwork (Sections 110 and 111)

Total number of outworkers in August 1971

Wearing apparel, making etc.	302
Boot and shoe manufacture	142
Elastic Manufacturers	15
Department store	1
Total	460

Observations on the administration of the Factories Act, 1961 Part 1 of the Act

Inspections for the purpose of provisions as to health (inspections made by Public Health Inspectors)					
	Premises	Number on Register	Inspections and re-inspections	Written notices	Occupiers prosecuted
(i) Factories in which Sections 1, 2, 3, 4 and 6 are to be enforced by the local authority		57	22	.	.
(ii) Factories not included in (i) in which Section 7 is enforced by the local authority		2061	120	.	.
(iii) Other premises in which Section 7 is enforced by the local authority (excluding out-workers premises)	
Total		2118	142	.	.

Factories – Cases in which defects were found

Particulars	Found	Remedied	Referred to H.M. Inspector	Number of cases in which prosecutions were instituted
Want of cleanliness (Sect. 1)	5	4	.	.
Overcrowding (Sect. 2)	.	.	.	.
Unreasonable temperature (Sect. 3)	.	.	.	.
Inadequate ventilation (Sect. 4)	1	.	.	.
Ineffective drainage of floors (Sect. 6)	.	.	.	.
Sanitary conveniences (Sect. 7) <i>a</i> insufficient	.	.	.	.
<i>b</i> unsuitable or defective	5	4	1	.
<i>c</i> unsatisfactory labelling of accommodation (not including offences – out work)	.	.	.	.
Total	11	8	1	.

Smoke Control Orders in force

Area No.	Area Name	Operative Date	Council Houses	Private dwellings	Other buildings
1	St. Matthews	1 Sept. 1958	735	1	3
2	Central	1 Sept. 1958	.	45	504
3	Lee Street	1 Sept. 1960	34	93	346
4	Church Gate	1 Oct. 1961	.	98	321
5	Aerodrome		438	6	29
6	Lutterworth Road		1821	1032	61
7	Dane Hills	1 Oct. 1962	467	1443	32
8	New Parks	1 Oct. 1963	3570	118	19
9	Highcross Street		.	47	167
10	Braunstone West	1 Oct. 1964	2100	8	8
11	Granby		.	132	753
12	Willow Street		737	2	17
13	Tudor Road	1 Dec. 1964	.	1057	44
14	Braunstone Park	1 Dec. 1965	1150	6	5
15	Fosse	1 Dec. 1965	.	4513	89
16	Narborough Road	1 July 1967	1590	3430	68
17	Aylestone	1 Nov. 1967	100	3600	98
18	Beaumont Leys	1 Nov. 1967	2000	2875	121
19	Saffron 1	1 Nov. 1968	1448	5	10
20	West Knighton	1 Nov. 1968	5	1404	17
21	Aylestone Road	1 Nov. 1968	55	1165	115
22	Victoria Park	1 Nov. 1968	75	382	146
23	Abbey Park	1 Nov. 1968	40	956	297
24	Corporation Road	1 Nov. 1968	10	1667	121
25	Knighton	1 Nov. 1969	.	6061	23
26	Saffron 2	1 Nov. 1969	930	.	10
27	Belgrave and Rushey Fields	April 1971	687	7350	434
Totals			17992	37496	3858

Smoke Control Orders (awaiting confirmation)

Area No.	Area Name	Operative Date	Council Houses	Private dwellings	Other buildings
28	Stoneygate	1 July 1972	60	3351	101
29	Mayflower	1 July 1972	550	1580	33
30	Crown Hills	1 Nov. 1972	843	6323	585

Smoke Control Orders (proposed)

Area No.	Area Name	Operative Date	Council Houses	Private dwellings	Other buildings
31	Spinney Hill	1 Nov. 1973	31	4628	not yet determined
32	Netherhall	1 Nov. 1973	1541	598	"
33	West End	1 Nov. 1973	.	134	"
34	Spencefield Lane	1 Nov. 1974	961	2593	"
35	West Humberstone	1 Nov. 1974	579	1423	"
36	Thurncourt Road	1 Nov. 1975	1749	106	"
37	Thurmaston Lane	1 Nov. 1975	.	1203	"
Totals			4861	10685	

Food and Drugs Act, 1955

Milk Sampling for chemical quality

Pasteurised Milk	326
Pasteurised Channel Island Milk	18
Sterilised Milk	115
Ultra Heat Treated	39
Total	498

Milk (Special Designation) Regulations, 1963-1965

Pasteurised Milk (bottles and cartons)	232
Pasteurised Channel Island Milk (bottles)	18
Pasteurised Milk ($\frac{1}{2}$ pints from school supplies)	94
Sterilised Milk (bottles)	115
Ultra Heat Treated	39
Total	498

Bacteriological Examinations of milk bottles and churns

Rinses from churns and bottles were taken at regular intervals in order to assess the efficiency of the washing plant at the dairies.

Number of bottle rinses taken	226
Number unsatisfactory	14
Number of churn rinses taken	144
Number unsatisfactory	10

An unsatisfactory bottle has a count of more than 600 colonies and an unsatisfactory churn more than 250,000 colonies.

Examination of milk supplies for antibiotics

Number of samples taken	92
Number unsatisfactory	1

Food and Drugs Act, 1955

Sampling of food and drugs other than milk

The following is a summary of samples submitted to the Public Analyst. Full details appear in the City Analyst's section of this Report.

Food samples – Formal	34
Food samples – Informal	1235
Number unsatisfactory	81

Drug samples – Formal	1
Drug samples – Informal	66
Number unsatisfactory	6

Total food and drug samples	1336
Total number unsatisfactory	87

Ice Cream Sampling

Bacteriological Examination

103 samples were submitted for bacteriological examination during 1971 of which 11 were unsatisfactory.

The unsatisfactory samples were followed up, advice given and satisfactory samples obtained.

Chemical Examination

Number of samples 21

2 samples of soft ice cream did not conform to the Food Standards (Ice Cream) Regulations 1959. Upon investigation it was found that these were water ices and the mix was at once taken off sale.

Bacteriological Examination of Shellfish

Number of samples 54

The samples were mostly of a higher standard than the previous year.

Other Sampling

Fertilisers and Feeding Stuffs Act, 1926

Number of samples taken:

Fertiliser 50

Number unsatisfactory 12

Number of feeding stuff samples taken 16

Number unsatisfactory 2

Total number of samples 66

Unsatisfactory 14

Food Hygiene (General) Regulations, 1970

Deficiencies found:

Insufficient or unsatisfactory sanitary accommodation 49

Absence of notices re hand washing 31

Insufficient provision of sinks, washbasins and hot water 76

Absence of clean towels 22

Insufficient accommodation for outdoor clothing 2

Absence of protective clothing 6

Absence of first aid equipment 72

Dirty food rooms 36

Dirty equipment 124

Non-absorbent working surfaces 62

Defective surfaces to floor, walls, etc. 256

Removal of refuse 82

Unsatisfactory lighting and ventilation 17

Food not protected from risk of contamination 75

Absence of food handling equipment 11

Miscellaneous 94

Total 1015

Full details appear in the City Analyst's section of this Report.

Summary of foodstuffs condemned 1971

	Tons	cwt	qr	lb
Fish (excluding shellfish)	1	14	.	.
Crabs	.	2	.	13
Other shellfish	.	.	1	8
Fruit	64	11	.	.
Vegetables	96	8	.	.
Poultry	1	5	.	.
<i>Meat</i> English	25	17	1	21
Imported	2	3	3	.
<i>Offal</i> English	27	13	1	7
Imported	.	15	.	2
Rabbit	.	.	.	21

Other foodstuffs

Pastry	102 lbs
Flour	5044 lbs
Fats	225 lbs
Soup	1485 lbs
Biscuits	160 lbs
Sugar	17 lbs
Tea	400 lbs
Meat Products	2992 lbs
Fish Products	50 lbs
Milk products	205 lbs
Fruit pie filling	268 lbs
Custard powder	56 lbs
Nuts	1200 lbs
Herbs	460 lbs
Cakes & Cake Mixture	160 lbs
Cereals	126 lbs
Mustard	28 lbs
Liquid and whole egg	90 lbs
Mixed puddings	220 lbs
Fruit juice	10 galls
Baby food	30 lbs
Cheese	169 lbs
Confectionery	60 lbs
Ice Cream	130 lbs
Assorted frozen foods	3802 lbs
Meat	3958 cans
Fish	4794 cans
Milk	493 cans
Fruit	5838 cans
Vegetables	10026 cans
Miscellaneous	6844 cans
Fruit pulp	745 lbs

Slaughtering of animals for food 1966-1971

	1971	Casualty animals carcasses included in 1971 figures	1970	1969	1968	1967	1966
Cattle excluding cows	18731	9	20650	19382	22652	25988	23134
Cows	696	4	219	389	835	761	1030
Calves	294	4	343	507	637	894	848
Sheep	71068	56	78969	81533	100466	92671	98146
Pigs	81332	298	76799	85374	75382	63476	69302
	172121	371	176980	187185	199972	183790	192460

Incidence of disease The following table summarises the quarterly returns to the Ministry of Agriculture, Fisheries and Food in connection with research and disease control carried out by the Animal Health Division.

Adult Cattle					Calves				
Condemnations					Condemnations				
Number slaughtered 19427					Number slaughtered 294				
	Carcases	Offal				Carcases	Offal		
	Total	Partial	Total	Partial		Total	Partial	Total	Partial
Actinobacillosis (-mycosis)	.	.	.	112					
Bruising	.	10	.	10	Bruising	.	.	.	.
Cysticercosis (C. Bovis)					Emaciation	1	.	1	.
a Rejected	.	.	.	11	Immaturity	.	.	.	.
b Refrigerated	11	.	.	11	Joint-ill or navel-ill	1	.	1	.
Echinococcosis	.	.	.	13	Septicaemic conditions/fever	11	.	11	.
Emaciation	.	.	.	108	Tuberculosis	.	.	.	.
Fascioliasis (fluke)	.	.	.	624	Other conditions	3	.	3	.
Hepatic abscess	.	.	.	578					
Johne's disease	.	.	.	.	
Mastitis	.	.	.	2					
Peritonitis	.	.	.	.	
Pneumonia and/or pleurisy	.	.	.	93					
Septicaemic conditions/fever	11	.	11	.					
Telangiectasis	.	.	.	19					
Tuberculosis	.	.	.	1					
Tumours	2	.	2	.					
Other conditions	7	3	7	300					

Pigs	Condemnations			
	Carcases		Offal	
Number slaughtered 81,332				
	Total	Partial	Total	Partial
Abscess	.	174	.	80
Arthritis	.	87	.	409
Ascariasis (Milk spot)	.	.	.	.
Bruising	3	106	3	.
Echinococcosis	.	.	.	.
Emaciation	8	.	8	.
Jaundice	8	.	8	.
Pneumonia and/or pleurisy	.	.	.	694
Pyæmia	130	.	130	.
Septicaemic conditions/fever	140	.	140	.
Swine erysipelas	3	.	3	.
Tuberculosis	2	.	2	.
Tumours	5	.	5	.
Other conditions	9	7	9	7

Sheep	Condemnations			
	Carcases		Offal	
Number slaughtered 71,068				
	Total	Partial	Total	Partial
Abscess	.	1	.	2
Arthritis	1	2	1	.
Bruising	2	1	2	.
Cysticercus ovis	.	.	.	.
Echinococcosis	.	.	.	970
Emaciation	15	.	15	.
Fascioliasis (flake)	.	.	.	1153
Jaundice	.	.	.	.
Pneumonia and/or pleurisy	.	.	.	41
Pyæmia	3	.	3	.
Septicaemic conditions/fever	32	.	32	.
Tumours	5	.	5	.
Other conditions	6	.	6	.

Other premises subject to inspection

Knackers' yard	1
<i>Offensive trades</i> a Hides & skins	1
b Tripe dressers	1
Pet shops	23
Animal boarding establishments	2
Riding establishments	1
Hairdressing premises	402
Part II Poisons	151

Ministry of Agriculture, Fisheries and Food Prevention of Damage by Pests Act, 1949

Report for 12 months ended 31st December, 1971

Type of property : non-agricultural properties other than sewers

1	Number of properties in district	112271
2	<i>a</i> Total number of properties (including nearby premises) inspected following notification	3769
	<i>b</i> Number infested by (i) Rats	1675
	(ii) Mice	1533
3	<i>a</i> Total number of properties inspected for rats and/or mice for reasons other than notification	6853
	<i>b</i> Number infested by (i) Rats	16
	(ii) Mice	200
	Number of wasps nests destroyed	230
	Number of feral pigeons destroyed	668

City Analyst

Report for the year 1970

E R Pike, *BSc, MChemA, MPhA, MPS, FIFST, FRIC*

I have the honour to submit my eleventh annual report on the work carried out in the laboratories of the City Analyst during 1971.

The samples examined are summarised as follows:

Samples submitted under the Food and Drugs Act, 1955

(a) Submitted by City of Leicester Public Health Inspectors		
(i)	Milks for compositional analysis	497
(ii)	Milks for the presence of antibiotics	92
(iii)	Milks for the efficiency of heat treatments	497
(iv)	Milks for keeping quality	344
(v)	Foods (other than milk)	1219
(vi)	Drugs	68
(vii)	Shellfish for bacteriological quality	54
(viii)	Bacteriological examinations (Water, Churns and Bottle Rinses, Foods for efficiency of heat treatment)	1230
(b)	Food and Drugs submitted by private persons	83

Samples submitted under the Fertiliser and Feeding Stuffs Act, 1926

66

Samples submitted by Public Protection Dept. under the Trade Descriptions Act, 1968

130

Blood and Urine samples examined under the Road Safety Act, 1967

231

Miscellaneous Samples

(i)	Atmospheric pollution samples	2782
(ii)	Miscellaneous samples examined for the Health Department	98
(iii)	Blood and Urine samples submitted for Lead-Mercury screening	127
(iv)	Samples examined for Corporation Departments other than Health and Public Protection Department	503
(v)	Samples examined for other Local Authorities	670
(vi)	Samples examined for private persons (other than Road Safety Act samples)	459

Total 9150

The total number of samples examined shows an apparent reduction as compared with the 10,391 examined in 1970; this being due to the loss of the phenylketonuria blood screening samples 2,280 of which were examined in 1970. After allowing for these samples the number of specimens examined in 1971 should be compared to a figure of 8,111, thus showing an increase of 1,039. However, as I have stressed in previous reports the work load of the laboratory cannot be assessed from sample numbers but from total examinations performed upon the samples; as an example a single soil sample currently being examined from the Beaumont Leys site requires estimations of both total and available contents of zinc, copper, nickel, chromium, cadmium and lead. In addition analyses for arsenic and mercury are also called for making a total of fourteen estimations for one sample! Also there is a recent tendency to be much concerned regarding the occurrence of traces of toxic metals, pesticides etc. in foodstuffs and it is with some satisfaction that I report that this laboratory has made useful contributions towards the compilation of statistics called for by the Association of Public Analysts in their collaborations with the Working Party set up by the Government to investigate the occurrence of toxic metals in foods. (See legal section).

Obviously the extra work load involved calls for heavier demands upon laboratory staff, however, staff increases have been delayed by a continued policy of modern instrumentation. It was therefore with great relief that early in 1971 we were able to install an Atomic Absorption Spectrophotometer which has been invaluable in trace metal estimations and has indeed already more than paid for itself in the several thousand metal estimations already carried out on Beaumont Leys soil samples alone.

It is with satisfaction that I report that there have been no changes in technical staff during 1970, and I must pay tribute to the able and willing service which each without exception has given throughout the year. Examination

successes are always a pleasure to acknowledge and congratulations are extended to Mr. S. D. Musgrove for his election to the Licentiatehips of the Institute of Biology and the Institute of Food Science and Technology. Appreciation is also recorded to my deputy Miss L. C. Graham and the senior assistant Mr. M. W. Fogden for their help and co-operation in giving lectures and talks to the many organisations who show interest in the work of the department. Staff activity in scientific societies is also encouraged, both Miss Graham and myself being members of the Midland Committee of the Institute of Food Science and Technology whilst Mr. M. W. Fogden is a member of the East Midland Section Committee of the Royal Institute of Chemistry.

I must also thank members of the Inspectorate staffs with whom we are in daily contact. It has been a pleasure to work with them all not only to exchange views and ideas on our work but also to appreciate their efforts in our mutual task in safeguarding the public.

Finally, I thank the Chairman, Members of the Health Committee and the Medical Officer of Health for their interest and encouragement in the activities of the Department.

Legal

Legislation introduced during 1971 affecting the work of the City Analyst.

During 1971 little new legislation was enacted though several Regulations made in earlier years came into operation, these include the following:

The Coffee and Coffee Products Regulations, 1967, (date of operation 4.1.71).

The Margarine Regulations, 1967, (date of operation 4.1.71).
Colouring Matter in Food (Amendment) Regulations, 1970, (operational 1.1.71).

Fish and Meat Spreadable Regulations, 1968, (operational 15.3.71).

Ice Cream Regulations, 1967, (operational from 4.1.71).

The Preservatives in Food (Amendment) Regulations, 1971

This amendment to the Preservatives in Food Regulations was made upon 25th May, 1971, and came into operation upon 1st September, 1971. The effect of these regulations:

- (a) Impose limits on the amounts of sodium nitrate and sodium nitrite which may be added to bacon and ham;
- (b) Impose a limit on the amount of sodium nitrate which may be added to pickled meat; and
- (c) Impose in respect of all pickled meat, the limit on the amount of added sodium nitrite, which formerly applied only to cooked pickled meat.

Circular FSH 2-71. The Bacteriological Examination of Fresh Cream

This Circular issued in June, 1971, by the Minister of Agriculture, Fisheries and Food stated that as a result of a recent survey by a working party of the Public Health Laboratory Service, on the bacteriological quality of fresh cream, the presence of pathogenic bacteria was rarely found and food poisoning incidents traceable to fresh cream have been very rare in number. However, cream has been shown to have frequently a high bacterial content, the main result of which is a loss of keeping quality. The bacteria present are usually the result of contamination during processing.

The circular confirmed the 'Methylene blue' test as a satisfactory screening test for the examination of cream for hygienic quality and conditions for the test were set out.

No legal enforcement was envisaged in the Circular, but it was stated 'If samples from the same source repeatedly decolourise Methylene blue after overnight incubation, consultations should be arranged between the local authority, the laboratory and the dairy, perhaps with inspection of the dairy premises and retail storage conditions in an effort to eradicate production faults.'

Reviews of Food Standards Committee and Food Additives and Contaminants Committee

The lack of new regulations introduced during 1971 was balanced by a fair number of proposed reviews of existing regulations, or possible new ones in which interested parties were requested to submit evidence.

These included:

Review of Date Marking of Food (March 2nd, 1971)

The Food Standards Committee's Interim Report to the Minister appended this Circular, the recommendation of which was to request a review inviting evidence from interested parties.

Proposed Review of Novel Proteins (March 30th, 1971)

The development of novel protein products which include textured vegetable proteins made from materials such as soya beans and proteins from micro-organisms known as 'single-cell proteins', has stimulated this review. Much concern has been shown by certain members of the public regarding possible substitution of meat by these products (see later sections of this report) since these preparations are often presented as simulated meats.

Proposals to Amend the Bread and Flour Regulations, 1963 (29th October, 1971)

The effect of these proposals would be:

- (a) to permit the use of Azodicarbonamide and L-Cysteine hydrochloride monohydrate, within quantitative limits, as additional alternatives to the flour improving agents at present permitted;
- (b) to add ferrous sulphate to the permitted alternative forms of iron, which is required to be added as a nutrient to all flour other than wholemeal;
- (c) to replace the specified form of reduced iron, which is one of the present alternatives, by a form of iron powder; and

(d) to relate the other nutrients required to be present in flour to particular specifications in the British Pharmacopoeia, 1968, and the British Pharmaceutical Codex, 1954.

It was proposed that the amending regulations would be made and brought into force as soon as practicable.

Antioxidants in Food Regulations—Review of the use of Butylated Hydroxytoluene

The Food Additives and Contaminants Committee issued a report on April 19th, 1971, on the use of butylated hydroxytoluene (B.H.T.) as an antioxidant. Although the report had been published, Ministers have yet to reach decisions on the recommendations and before doing so requested representations from interests concerned. The Report recommended that no change in the Antioxidant Regulations, 1966, need be made.

Review of Further Classes of Food Additives—Liquid Freezants of Food

The quick freezing of food may be accomplished by spraying or immersing in a liquid freezant. Liquid freezants include liquid nitrogen and proprietary freezants; such substances are not at present controlled by any specific food regulations, though they are subject to the general provisions of the Foods and Drugs Act, 1955. Section 1 of the Act provides that it is an offence to add or subtract any substance to food, or subject any food to any process or treatment so as to render the food injurious to health, and to sell food so rendered injurious. Section 2 prohibits the sale to the prejudice of the purchaser of food which is not of the nature, substance or quality demanded, and section 8 prohibits the sale of food which is unfit for human consumption. The object of the review is to consider such liquid freezants with the possibility of control by regulations.

Survey of Mercury in Food (First Report 1971)

Following reports in the United States (December, 1970) that high levels of methylmercury compounds had been found in canned tuna, the Laboratory of the Government Chemist examined samples of canned tuna and found organically combined mercury to the extent of 0.1 to 0.8 parts per million. Sufficient concern was felt over the presence of such amounts of mercury that the Pharmacology Sub-Committee recommended that efforts should be made to reduce further contamination of the environment with Mercury, and that further studies should be made of the occurrence of mercury in all varieties of foodstuffs. However, it was felt that there was no necessity for the banning of the sales of tuna-fish considering the low sales of this commodity in Britain.

As a consequence of these recommendations, a Working Party was set up with the remit to determine Mercury and certain other heavy metals in food in the United Kingdom, and to make reports. This report is the result of this investigation. Further reports relating to lead and cadmium are to be made in the future.

The report concluded that:

- 1 the intake of mercury from food by the average consumer in this country is not more than 10 micrograms and is probably in the region of 7–8 micrograms per day.
- 2 the Mercury contents of the major foods of the national diet are extremely low and in most cases barely detectable.
- 3 the average concentrations in most canned and fresh fish and shellfish are low but higher than in other foods; the intake of mercury by the average consumer from fish is estimated to be about 2 micrograms per day.
- 4 fish from certain coastal areas contain higher concentrations of mercury and from a few average areas about 0.5 p.p.m.
- 5 it appears that the only sections of the community which might consistently consume well above average amounts of mercury are those composed of individuals consuming

large amounts of fish drawn almost entirely from such an area or those consuming large amounts of canned tuna.

Joint Survey of Pesticide Residues in Foodstuffs sold in England and Wales

This is a report of Results obtained during the second year of the National Pesticide Residues Survey undertaken jointly by the County Councils Association, the Association of Municipal Corporations, the Urban District Councils Association and the Association of Public Analysts. The programme for the year was planned on the basis of results and experience gained during 1966-7, the range of foodstuffs being adapted accordingly. The slight increase in the number of foodstuffs found to contain residues was not considered significant. The results of the two years' tests are combined and compared, and details are included of findings for mercury residues on a large number of samples analysed for this survey.

The results of this second year survey again showed no evidence of any gross contamination and none of the results obtained was considered to warrant any vigorous follow-up action.

Mould Content of Tomato Products (Official Standard of the Association of Public Analysts)

This is a standard adopted by the Association of Public Analysts to control the quality of tomato products and to eliminate the use of unacceptable amounts of mouldy tomatoes in accordance with the following standards:

1 Tomato Puree.

The Howard Mould Count shall not exceed 50% positive fields.

2 Tomato Juice.

The Howard Mould Count shall not exceed 25% positive fields.

3 Tomato Ketchup.

The Howard Mould Count shall not exceed 30% positive fields.

European Pharmacopoeia. Vol. II. 1971

This second volume of the European Pharmacopoeia produced by the European Pharmacopoeia Commission representing the Six E.E.C. countries with the addition of Switzerland and Britain, is complimentary to the first Volume produced in 1969. The contents included amendments to the first volume; methods of analysis; standards and reference substances; monographs and appendices.

The monographs refer to some 125 substances and where applicable defines the substance, gives tests for identification, assay procedures, storage and labelling instructions. The European Pharmacopoeia now takes precedence over the British Pharmacopoeia when it includes a monograph of any specific substance.

Addendum 1971 to the British Pharmacopoeia, 1968

This addendum, effective from 1st October, 1971, is the second addendum to the B.P. 1968. It includes 59 new monographs and 143 amendments to existing monographs, 64 of which are to give effect to the requirements of the European Pharmacopoeia.

Supplement 1971 to the British Pharmaceutical Codex, 1968

Some 95 new monographs are included whilst amendments are prescribed for 58 substances. Among the new monographs aerosol inhalants are included, standards being given regarding details of containers with storage and labelling procedures.

Supplement to British Veterinary Codex, 1965

This supplement came into effect on April 5th, 1971. Some 38 new monographs have been included in Part I of the Codex whilst nearly 60 new monographs on preparations such as dips, injections, etc., have been set out in Part III. The development of analytical methods applicable to pre-mixes and concentrates for medicating animal feeds, has enabled standards to be included and an appendix is given

indicating methods for the identification of active ingredients. The rapid advances in the manufacture and testing of vaccines, and other biological products since the B. Vet. C. was issued in 1965, has necessitated a complete revision of this text which is included in the Supplement. Many changes are included to conform to requirements of the European Pharmacopoeia.

It may be noted that much of the revision of the Pharmacopoeias is in connection with changes consequent upon publication of the European Pharmacopoeia. Though there has been little active new legislation with regard to food-stuffs, it can be predicted that a spate of new food regulations must be imminent to realign our food laws to conform to E.E.C. practice.

Milk

No matter what the composition of a specimen of milk might be, if that specimen is as provided direct from the cow it cannot be said to be adulterated. For this reason the standards prescribed by the Sale of Milk Regulations, 1939 are described as 'presumptive' standards and milk which does not contain a minimum of 3% fat as 8.5% milk-solids-not-fat is presumed to be adulterated unless the contrary is proved. In practice the presence of added water is confirmed by the Hortvet freezing point test together with a more detailed analysis of the specimen. Often the presence of mastitis in the cow can be detected by compositional characteristics of a milk sample and appropriate action recommended. Fat deficiency can result from abstraction of cream or it might be simply a genuine but poor quality milk. Such fat deficiencies can only be proved by the taking of a so-called 'appeal to cow' sample, but obviously this check can only apply to non-bulked raw milks. Provided the milk is of the same composition as given by the cow no offence can be proved even if the fat or solids not fat are below the presumptive standards.

The law relating to milks designated as 'Channel Island' or 'South Devon' is different. Such Milks are governed by the Milk and Dairies (Channel Islands and South Devon Milk) Regulations, 1956 and are subject to an absolute minimum of 4% fat. No absolute standard is fixed for milk-solids-non-fat and the presumptive minimum of 8.5% is therefore applied; nevertheless Channel Island Milks usually contain a much higher solids-not-fat content as indicated in the analytical data shown below.

495 samples of milk were submitted during 1971 for compositional analysis of which 19 were designated 'Channel Island'. No 'Channel Island' milk was the subject of an adverse report, the average fat content being 4.42% by weight, and solids-not-fat content 8.95% by weight.

The annual average composition of milk (other than Channel Island) is given in the table below:

Annual Average Composition of Milk

<i>Year</i>	<i>Fat %</i>	<i>Solids not Fat %</i>	<i>No. of samples examined</i>
1963	3.70	8.76	1008
1964	3.71	8.72	985
1965	3.73	8.71	1005
1966	3.72	8.67	1038
1967	3.69	8.60	1007
1968	3.64	8.64	622
1969	3.72	8.71	552
1970	3.67	8.67	600
1971	3.68	8.77	476

The number of samples of milk examined during 1971 has continued to decline being the lowest recorded for many years.

This reduction of sampling has been welcomed in the laboratory due to a great increase in work load in other sections but may also be justified since there are now only two dairies left which supply the whole of the City. Both of these dairies are efficiently run and maintain their own laboratory control over Producers' milks, and indeed work

closely with this laboratory and the Food Inspectorate in cases of dubious samples. No instance of watered milks were encountered during the year.

Heat Treatment of Milk

Present legislation prohibits the sale of raw milk except for milk bottled on specifically prescribed forms (i.e. so called Farm Bottled Milks). Thus milk must be subjected to some form of heat treatment to destroy the presence of any disease-producing organisms such as tubercular or undulant fever (brucella) bacteria. Such forms of heat treatment might consist of 'pasteurisation', 'sterilisation', or 'ultra-heat treatment (U.H.T.)'.

In the pasteurisation treatment milk is heated to 161°F for at least 15 seconds and then immediately cooled to 50°F. Satisfactory treatment is checked by the 'phosphatase test'; all 341 samples so tested were satisfactory. All these samples also fulfilled the conditions of the methylene-blue test for keeping quality.

Sterilised Milk is subjected to a more drastic heat treatment and is maintained at 212°F (i.e. boiling point of water) for such time as is required for the resultant milk to satisfy the turbidity test. All 116 samples tested were satisfactory.

Ultra Heat Treated Milk (U.H.T.) is milk which has been heated to 270°F for a period of not less than 1 second and then filled into sterile containers. 38 samples were examined and all passed the required bacterial colony count test.

Antibiotics in Milk

The presence of antibiotics, particularly penicillin, in milk arises from the use of these substances in the treatment of cows for mastitis. After such treatment the farmer is advised to withhold from sale milk from the treated animals for at least 48 hours since such milk will contain traces of antibiotic. This is important since some people are allergic to penicillin and in any case continued small doses of an antibiotic can render its subsequent use ineffective if its use is required for therapeutic treatment.

During 1963 a government report recommended Food and Drugs Authorities to test milk for the presence of antibiotics and when detected to take appropriate action.

During 1971 92 samples of producers' raw milk was tested for antibiotics and penicillin was detected in one informal sample. Subsequently a formal sample was taken which also proved to contain penicillin (in excess of 0.05 international units per millilitre) a finding which was substantiated when the Food Inspector found that the farmer had been using a penicillin ointment on the cow's teats.

Bacteriological Examinations—Churn Rinses and Milk Bottles

A pre-requisite of clean milk is that the vessels in which it is packed should be clean. A regular check is therefore carried out on the bacteriological state of washed churns and milk bottles.

For churns the colony count is recorded from a washing of the churn with Ringers' solution after incubation for 48 hours at 37°C. A count per churn of not more than 50,000 is regarded as 'satisfactory'; between 50,000 and 250,000 as 'fairly satisfactory'; and over 250,000 as unsatisfactory. Of the 144 churns examined 4 were found to be fairly satisfactory and 10 unsatisfactory. One of the unsatisfactory samples was found to be contaminated with faecal coliform organisms.

226 bottles were examined by a similar test of which 14 were unsatisfactory (4 with faecal coliform organisms) and 5 were recorded as being fairly satisfactory.

The proportion of unclean churns was approximately 7% as compared with 6.2% for milk bottles. The comparison for 1970 is 11.7% unclean churns and 1.2% unclean bottles which indicates some improvement on churn washing but a deterioration with regard to bottles.

Shell fish

Shell fish are examined for the presence of faecal type coliform organisms by a method developed by Ministry Fisheries Experimental Station at Conway. This sets certain

sanitary standards: Grade I containing 0–5 B. Coli per mil of flesh is acceptable in all markets; Grade II containing 6–15 B.Coli-mil is acceptable in some markets; and Grade III containing more than 16 B.Coli-mil of flesh is not acceptable for direct human consumption. 23 samples of mussels were examined during 1971 of which two samples were Grade II the rest being Grade I.

Waters

It is the responsibility of the supplier of a potable water to ensure that the water is of a sufficient bacteriological and chemical quality for potable purposes. This responsibility however only applies as far as the turncock supplying the premises, thereafter when the water flows through the pipes and supply system of a building it is the occupiers' responsibility to ensure that no contamination of the water occurs. In private homes the cold water supply is usually direct from the mains and thus there is little chance of contamination. In larger premises it is usual to supply the water through a storage tank often situated in the loft. It is in this installation that contamination can occur; it is not unheard of to find the remains of birds and rodents in such tanks. Especially therefore in large buildings, cafes, restaurants etc., it is essential that bacteriological checks be made on the water from drinking supply taps in order to safeguard the health of the many people who might drink such water. In the course of 1971, 122 such samples were submitted by Public Health Inspectors for bacteriological checks, of these 11 were found to contain coliform organisms, 8 of which were of the faecal type. Thus 9% of the samples taken were found to be of dubious bacteriological quality, quite a hazard when one considers the large number of people exposed to such contaminated water in these establishments.

460 further samples were taken direct from a main supply as a check of the bacteriological quality of the water as supplied.

Pasteurised Foods (other than milk)

(a) Pasteurised Whole Egg (Frozen)

During 1971, 87 samples of frozen pasteurised egg were submitted for subjection to the alpha-amylase test for efficiency of pasteurisation, of these 13 specimens did not satisfy the test (i.e. approximately 15% were rejected). Such a high failure rate was considered to be somewhat disturbing and as a consequence 72 samples were examined for the presence of coliform organisms. This exercise produced even more disturbing results for no less than 35 of these samples (i.e. 48.6%) were found to contain faecal-type coliform organisms. Such evidence could be explained in two ways. (a) either the pasteurisation process is insufficient to destroy the faecal-type coliform organisms or (b) there was some post-pasteurisation contamination. These findings however would appear to be in conformity with those found by Scalzo, Dickinson, Read and Parker (*Residence Times of Egg Products in Holding Tubes of Egg Pasteurisation—Food Technology, Champaign, 23. (5) 80*) who have remarked on the fact that although pasteurisation effectively reduces the percentage of liquid egg lots containing salmonella organisms, this pathogen is unfortunately being detected in the pasteurised product. For example in 1966, 26% of all pasteurised egg shipments examined by the Food and Drugs Administrators were contaminated with this pathogen.

It should be noted that the samples examined in this laboratory were not examined for salmonella organisms but only for E.coli (faecal coliform organisms), the responsibility for investigation of pathogens being that of the Public Health Laboratory Service. It is probable that salmonella figures would be less disturbing. Nevertheless our investigations indicate that frozen pasteurised egg is a potential health hazard since it is such an efficient substrate for the multiplication of organisms. It is fortunate that when used in cakes the baking process is lethal to pathogenic organisms. Obviously it would be unwise to use frozen egg in an uncooked product.

(b) *Ice Cream*

The Ice Cream (Heat Treatment Etc.) Regulations, 1959 and 1963 require all ice creams (excepting water ices or similar confections having a pH value of less than 4.5) to be subjected to a prescribed form of heat treatment as follows:

(i) The mixture shall not be kept for more than one hour at any temperature exceeding 45°F before being pasteurised or sterilised. Pasteurisation is carried out: (1) by heating to not less than 150°F for 30 minutes, or (2) by heating to not less than 160°F for 10 minutes: or (3) by heating to 175°F for not less than 15 seconds. Sterilisation involves heating to a temperature of not less than 300°F for at least 2 seconds.

After heat treatment the mixture must be cooled to less than 45°F within two hours and not allowed to exceed such temperature whilst awaiting the freezing process.

In order to assess the efficiency of heat treatment and subsequent storage effects upon the hygienic quality of ice cream the Ministry of Health in Circular No. 69-47 drew attention to the methylene-blue reduction test for grading ice cream developed by the Public Health Laboratory Service Staff of the Medical Research Council (Gillespie et al., 1947, 1948, 1949, 1950).

In this test the time taken to decolourise a standard methylene blue solution by a precise amount of the product at 37°C is recorded:

Grade I	decolourisation over 4 hours
Grade II	decolourisation over 2½ to 4 hours
Grade III	decolourisation over ½ to 2 hours
Grade IV	decolourisation less than ½ hour

The Ministry Circular suggests that if ice cream consistently fails to reach Grades I or II it is reasonable to regard this as indicating defects of manufacture or handling which call for investigations.

During 1971, 103 samples of ice cream were examined for hygienic quality with the following results.

Grade I	50
Grade II	35
Grade III	35
Grade IV	8
Total	103

Swimming Bath Waters

A total of 77 specimens of swimming bath waters were submitted by the Public Health Inspectorate during 1971. Of these 62 were taken from City of Leicester Swimming baths, 12 from privately controlled baths and 3 from school baths. All were examined for evidence of adequate chlorination and pH value to ensure protection of the health and comfort of the swimmer. Once more I am pleased to report that all the City of Leicester baths samples were satisfactory. samples taken from privately controlled baths were insufficiently chlorinated but the bacteriological state of the waters was acceptable.

The three school bath samples were remarkable in that they were excessively chlorinated, the maximum chlorine content recorded was at least 40 p.p.m. whereas the optimum amount is between 1 to 3 p.p.m. Investigation showed that the person in charge of the baths was using a kit for measuring the chlorine content using the D.P.D. method. With this method, if a chlorine content is on the high side the excess chlorine will bleach the colour developed indicative of the presence of chlorine. Inevitably more chlorine is added and obviously no chlorine is indicated by the next test, so in goes more chlorine until a ridiculously high content ensues causing ultimate discomfort to the bather. In this instance the bath was a small teaching bath and advice was given to enable the condition of the water to be rectified.

Additives and Preservatives in Food

As one progresses in age it becomes more obvious to the pensive person that life is a compromise; one rarely attains an advantage without relinquishing though perhaps in a minor degree, some other attribute. One must balance the advantage against the disadvantage and this indeed applies to the concept of the chemical preservation of food. It is extraordinary that many people are apt to rebel at the so-called adulteration of food by the use of chemical additives and yet these same people would complain of any deterioration in the quality of their stored food, or the lack of flavour, texture or colour in their diet. Much has been written of the connection between these additives and the incidence of cancer and other maladies. In particular chemical preservatives must, by definition, be substances capable of inducing a biological effect and obviously there must be a small possible risk in their use. It is of course, possible that the relatively high incidence of cancer and heart disease in modern man might be a consequence of the use of such substances or is it because he lives longer these days? It would seem from this reasoning that in spite of the use of these chemicals he is on the winning side of the bargain!

If there should be some association between cancer and preservatives then this might occur in the case of the use of nitrites and nitrates in the preservation of meat since it is known that in some circumstances the breakdown of protein to amino acids could react with nitrite to form carcinogenic nitrosamines. No doubt with this in mind the Preservatives in Food (Amendment) Regulations were made upon 25th May, 1971 and brought into operation upon 1st September, 1971. These regulations restrict the amount of sodium nitrate to 500 parts per million and sodium nitrite to 200 parts per million in bacon, ham and cooked or uncooked pickled meats. Consultation of our laboratory records indicates that an average nitrite content for bacon is about 150 p.p.m., well within the limit. It may be asked why use nitrites at all if they can result in carcinogenic nitrosamines?

The incidence of detrimental effect is however low and the demand for a good 'pink' colour in bacon, ham and pickled meats is definite, for who would buy these products if they were the unattractive dark greyish red colour which results unless nitrite or nitrate is used in the pickling bath.

Sausages are permitted to contain preservative in the form of sulphur dioxide up to a maximum of 450 parts per million by weight but only if its presence is declared. This declaration may be by label, notice in the shop, or verbally to the customer. Eight samples received adverse reports because of the presence of undeclared preservative. None of these samples however contained excessive sulphur dioxide.

The use of preservative on oranges was the subject of editorial comment in the *Leicester Mercury* during the early part of the year. This was the result of a person, linguistically knowledgeable, whose talents enabled him to translate the German and French labels of some orange crates in the Leicester Wholesale Fruit Market. These labels declared the presence of Diphenyl and O-phenylphenol on the oranges. It has long been the practice to treat oranges or the wrappers with such compounds which have a fungicidal action and thereby repress the tendency of the fruit to become mouldy. Diphenol is permitted on citrus fruit to the extent of 100 p.p.m. and O-phenylphenol 70 p.p.m. There are no requirements which necessitate the declaration of the presence of these substances upon retail sale in this country though this is required in Germany. In the course of investigations brought about by this complaint it was found that a few crates of oranges had been treated with a non-permitted preservative in the form of Thiobendazole. This substance is permitted in Germany but its presence on oranges according to the Preservatives and Food Regulations 1962 renders the fruit 'unfit for human consumption'. Since they were evidently fit for Germans the logical conclusion is that Germans could not be human! However reading further into the regulations it is found that if food is

treated with a non-specified or a non-permitted preservative it is a defence if that food was so treated in the course of storage e.g. in the course of transit in a ship's hold. Further even though thiobendazole is a non-permitted preservative it was found that the Ministry of Agriculture issue instructions for its use in the storage of food. This obviously produces a Gilbertian state of affairs! What is the use of condemning a batch of oranges as 'unfit for human consumption' if it is a defence to argue that they were treated with the non-permitted chemical! Ultimately it is obvious that in the end what is good for Germans is also good enough for the British. Perhaps entry into the Common Market will regularise such farcical situations.

Society today seems geared to the production of a large proportion of highly academically orientated individuals. In this statement I have avoided the word 'educated' for in a society bent upon the production of what would seem to be a superfluity of university graduates the stimulus of social responsibility in their teaching seems to be somewhat neglected. However having produced graduates of certain scientific erudition there appears to be insufficient niches in industry or commerce in which they may be fitted. The result of this is that many of these superfluous academics are deflected back into grant-aided university fellowships to carry out research and finally embellish themselves with a degree of Doctor of Philosophy; on the way, the findings of their research topics are published and if this research happens to be concerned with the pharmacology of additives used in food then often 'panic stations' are created. Such an occurrence happened concerning 'cyclamates', that artificial food sweetener said to be superior to saccharin because of the absence of the after-bitter taste. With indecent haste this substance was withdrawn from use in foods due to its suspected carcinogenic effects found as a result of American scientific research. Ultimately follow-up investigations failed to substantiate these findings and cyclamate has now been said to be innocuous. Nevertheless sufficient doubt

has been cast upon its use that it has not been reinstated as a permitted artificial food sweetener. Indeed it is doubtful if it would now be accepted by the ordinary person without misgivings. As a consequence of the 'saga of the cyclamates' it is somewhat disconcerting to read in the press at the time of writing this report that further American research has revealed that saccharin causes tumours in the bladders of the rat when fed at the rate of 5% in its diet. It has been calculated that at the same proportional rate of human intake of saccharin one would have to consume 875 bottles of soft drink per day. Undoubtedly with such a consumption death could result, but more likely from drowning or gale force flatulence rather than the carcinogenic effects of saccharin. If indeed the carcinogenic effect of saccharin is confirmed then according to the 'Delaney clause' in the United States food laws the use of saccharin in food would have to be banned. Probably European food laws will follow suit and if saccharin is banned, then we have no artificial sweeteners left; a not very enviable future for the sweet-toothed diabetic or figure conscious female!

A certain parallelism can be drawn with regard to Food Colours. The permitted colours are under constant revision and as from January 1st 1971 Ponceau MX was removed from the permitted list. Although adequate time had been allowed from the announcement of the withdrawal of this dye to the operational date of the ban, two samples were found to contain Ponceau MX, a raisin-flavoured cordial and canned English strawberries. Both commodities were removed from sale.

Two further samples contained non-permitted dye stuffs, but these were the result of decomposition of permitted colours. The Blackcurrant Health Drinks involved took on a most unhealthy green colour, and were reported as not being of the aesthetic quality desired. The reason for this change of hue was due to the use of an unsuitable red colour in this type of preparation.

Foreign Matter in Food

The incidence of foreign matter in food can be classified into two categories, firstly the visibly obvious obnoxious objects which might include various items of ironmongery, insects, fungi, finger-bandages etc., and secondly a class which includes the invisible chemical contaminants, metals, pesticides etc., and bacteriological contamination.

The laboratory does not receive all cases of foreign objects in food since many are capable of being dealt with by the Food Inspectorate unless some specific identification work is required to be carried out. Thus the number of samples rejected in this category in this report does not truly reflect the magnitude of this problem; reference to the Chief Public Health Inspector's report will give a more realistic idea of such incidence.

The following notes deal with some of the more interesting samples rejected due to foreign contents.

Herbs and Spices

In medieval days herbs and spices were greatly prized and valued perhaps more than they are today. It is said in the absence of food preservation much food consumed was highly spiced in order to mask the objectionable tastes of incipient putrefaction. After the examination of many of the herb and spice specimens submitted it would appear that not only would one mask objectionable characteristics by their use but the addition of many more would be accomplished. Most of the samples originated from warehouses specialising in the supply of Indian foods. It would appear that many of the immigrant users of these commodities are so used to their dirty and insect-ridden condition that they do not complain. The samples however, which consisted of coriander seed, cumin seed, fennel, telseed and ajwain seed, were infested with living mites, dead beetles, dead flies, bird droppings, rodent droppings, feathers etc. In all 27 samples of spices and 5 samples of rice were rejected.

Never have we dealt with such extensive and objectionable infestation in such samples, the amount of extraneous matter amounting in one sample up to 14.4% by weight. All the spice samples were declared unfit for human consumption. The rice consisted of 4 samples of Basmati rice, all contained dead beetles ranging from one to 50 in 12oz. samples and were declared 'aesthetically unacceptable and not of the quality demanded'. A further sample of Bagma rice which contained a large number of mites and other foreign matter was rejected as unfit for human consumption.

Six samples of herbs (3 thyme, 2 rosemary, 1 basil) whilst being normal specimens were found to be contaminated with faecal coliform bacteria. Whilst in well cooked foods this might not provide a great hazard such contamination could contribute towards the incidence of 'tummy troubles' and indeed does indicate that the hygienic quality of many of these products leaves much to be desired. One sample of thyme was found to contain zinc to the extent of 76.6 parts per million; this exceeds the Foods Standards Committee recommendation of a maximum of 50 p.p.m.

A sample of curry powder was rejected as unsuitable for edible purposes because of the presence of mould.

Condiments

A sample of a spiced salt condiment was rejected since it was described as 'purely vegetable' and yet contained 55.4% of salt.

Fruit and Vegetables

A sample of mushrooms was found to contain 34.2 p.p.m. of copper and 3.0 p.p.m. of cadmium, this amount was regarded as high, the copper content exceeded the 'recommended' maximum of 20 p.p.m. Further samples from later consignments proved to be acceptable.

A sample of peaches was submitted privately due to foreign matter adhering to the internal surface of the lid of

the can. This material had the characteristics of machine grease with gritty matter.

A complaint was received from a private person concerning glassy fragments of matter in a can of oranges. These proved to consist of particles of sodium hexametaphosphate. It was reported that though aesthetically undesirable these would not constitute a hazard to the health of the consumer. It was not possible however to tell whether the particles were present prior to opening the can, but if they were then their presence would constitute an offence under the Labelling of Food Order 1953 as the presence of this material was not declared in the list of ingredients. Further samples of the same brand failed to provide evidence of the presence of this substance.

A sample of dried apricots was found to be infested with mites—probably the Dried Fruit Mite (*Carpoglyphus lactis*).

Among samples examined for another local authority the following samples deserve mention.

'Adders fork and blind worm's sting

Lizard's leg and howlet's wing . . .

Shades of Macbeth were invoked by the presentation of a sample of grapefruit juice—truly a witch's potion containing foreign bodies in the form of a lizard and a spider. The parts of the lizard identified were, two forelegs, two hindlegs, a tail measuring 2 cm., two eyeballs and a certain amount of skin. From this information it was concluded that the lizard was approximately 2 inches long and complete in body before being processed in the can, the subsequent heat treatment being responsible for the disintegration of the reptile.

Cereal Products

A sliced loaf was rejected because of the presence of mould. A brown loaf was submitted with the allegation that it contained foreign matter. Microscopical examination revealed that the black particles, which initiated the complaint, had histological features typical of a seed coat other

than wheat. It was reported that their presence rendered the sample not of the quality demanded.

A biscuit was rejected because of the presence of a human hair.

Cornflakes in milk were submitted from a private person because of a very bitter taste. An Alkaloidal substance was extracted having the characteristics of quinine.

A buttered bread cob contained an insect having the characteristics of a bee. Microscopical examination revealed that the insect had bread-crumbs adhering to it indicating that it had been baked in the bread, an opinion confirmed by a negative phosphatase test carried out on a portion of the insect.

Sugar Products

A sample of sugar was submitted because of the presence of a brown powder. This powder was found to consist of starch grains and was ultimately found to originate from gravy powder. It was obviously a case of contamination in the home.

An ice lolly was submitted because of a 'bitter' taste. It was found to contain 0.5% of calcium chloride probably due to contamination with the refrigeration medium.

Dairy Products

Two samples of cheese were submitted due to the presence of foreign matter. One sample, a processed cheese was said to be gritty; this was due to the crystallisation of lactose due to faulty processing. A further sample of cheese spread contained a small piece of brown foreign matter.

Miscellaneous Products containing foreign matter

A sample of canned pilchards was submitted due to the presence of green slimy matter. Microscopical examination showed the presence of microscopic crustacea, nematoda and numerous types of unicellular and colonial Chlorophytes (green algae). The opinion was expressed that the

above-mentioned organisms were the contents of the alimentary canal of the Pilchard and indicated improper gutting before processing. The sample was rejected as being not of the quality demanded.

A sample of toothpaste was submitted due to the presence of an alleged rat dropping. Examination indicated that it consisted of a rubbery material which was the result of abrasion on the production machinery. A letter of thanks was received from the manufacturers for drawing their attention to this matter.

Foods of defective composition (Other than Dairy and Milk Products)

(a) Meat and Fish Products

Shredded Beef Suet is controlled by the Food Standards (Suet) Order, 1952, which prescribes a minimum fat content of 83%. Sample No. 1359 was found to contain only 71.6% of fat.

Under the Canned Meat Regulations, 1967, a product described as 'Meat Roll' must contain a minimum of 65% of total meat, whereas sample 323 described as Ham Roll with Chicken contained only 59.7% of total meat.

A deficiency of 2.7% of the required meat content was found in sample No. 1182, Chicken Fillets in Jelly. This product is required to contain not less than 80% of chicken, whereas only 77.8% was detected.

The Fish and Meat Spreadable Products Regulations, 1968, came into force upon 15th March, 1971. These regulations now require meat pastes to contain not less than 70% of meat (formerly 55%), bringing these products into line with the fish requirements of fish pastes (70%). 'Potted' meat products are required by the same regulations to contain not less than 95% meat and to contain no cereal binder. During 1971, four samples of beef paste were adversely reported upon due to meat deficiency, these deficiencies ranging from 6.7% to 15% of the required 70% meat content.

Three samples of Potted Beef were similarly rejected due to deficiencies of meat ranging from 3.8% to 9.5% of the required 95% beef content.

Sausages and Sausage Products

In contrast to many of my Annual Reports, this year only one sausage sample was criticised due to low meat content; sample No. 796, a Pork Sausage, contained only 62.2% of total meat, equivalent to a deficiency of 4.3% of the required minimum 65%.

Scotch Eggs traditionally consist of hard-boiled eggs coated with Pork Sausage Meat. Pork Sausage Meat is subject, as mentioned above, to a minimum meat content of 65%, whereas the meat contents of the coatings of Scotch Egg samples 1172 and 1206 contained only 35.6% and 40.3% of meat respectively.

Fish

It is now possible for us to differentiate and identify fish species by a process known as Disc Electrophoresis, in which the proteins of the fish produce characteristic patterns. A sample of haddock was submitted which gave a pattern characteristic of the fish known as 'coley'. It was declared 'not to be of the nature demanded'.

Soft Drinks

The popularity of drink consisting of beer and lemonade or ginger beer, and commonly known as 'shandy' or a derivation of such description, has increased since the advent of the 'breathalyser'. It is now sold as a canned or bottled product and provided the alcohol content is kept below 2% proof spirit, (i.e. 1.14% of ethyl alcohol) it is classed as a soft drink and so is permitted to be sold from unlicensed premises. However, if the beer content of this product is decreased so as to ensure that the product does not infringe the excise regulations the character of the product becomes debased. According to the Labelling of Food

Order, 1970, such products bearing the designation 'shandy' or some derivative thereof must have a minimum strength of 1.5 per cent. proof spirit. Obviously then, if a manufacturer wishes to sell his product from unlicensed premises and to persons under 18 years of age he must ensure that his product contains alcohol between the limits of 1.5 and 2.0% proof spirit. Four samples of shandy were rejected due to low alcoholic content, these ranged from 0.81% to 1.32% proof spirit. All manufacturers were notified of these discrepancies and in all cases except one took steps to rectify the matter. The exception, not a local producer, adopted the attitude that until the Labelling of Food Order 1970 came into operation (1st January 1973) he was entitled to sell a product which abused the description 'shandy'!

Indian Tonic Water is required to contain not less than half a grain of Quinine Sulphate per pint, whereas sample No. 94 contained only 0.41 grains per pint, thus rendering the product deficient of 18% of the minimum required Quinine Sulphate content. The reason for this deficiency was probably that the bottle had been exposed to sunlight which has the effect of decomposing quinine.

'Hi-Protein Bread'

High-Protein Bread is defined in the Bread and Flour Regulations 1963 as bread containing not less than 22% of protein calculated by weight upon the dry matter. Sample No. 445 contained only 17.8% of protein so calculated and was therefore reported against as being 19.1% deficient of the minimum required protein content and thus not of the quality demanded.

Cheese Crispbread

This sample (No. 806) was stated to contain 25 calories per slice whereas analysis indicated a calorific value of 29.4 calories per slice. Communication with the manufacturers indicated that the slices were heavier than they should have been due to discrepancies in control of production.

Dried Mixed Vegetables

This sample (No. 1539) was stated to contain French Beans but investigation revealed a lack of beans and the presence of undeclared cabbage!

'Bio Salt'

That folks are prepared to pay 15 pence (3 old shillings) for 12 ozs of salt is incredible. Such was the cost of 'Bio Salt' sample 792. No doubt that part of the cost was due to the care and accuracy with which this product was compounded since it was described as 'A perfectly biochemically balanced and harmless compound salt'! Harmless it might have been but analysis did not confirm the 'perfect balance' since it was 50% deficient of the declared calcium content (200mg/1 oz), 64% deficient of the declared Iron content (0.25mg/1 oz) and 16% deficient of the declared Phosphorus content (90mg/1 oz)

I do not understand who decides on the 'perfect balance' of these ingredients! If such perfect balance is needed then a specific dose should be stated, for how big is a 'pinch of salt'? Also should not the calcium, iron and phosphorus contents of other articles of diet be taken into consideration. A drink of milk will provide a greater calcium and phosphorus intake than a pinch of this salt! Communication with the manufacturer indicated that inability to obtain the usual additives had resulted in an imbalance of formulation!

Defective Labelling

Several samples of so-called 'Enriched Bridge Rolls' were analysed and produced analytical data which was not markedly different from ordinary bread. The opinion was therefore expressed that unless the description 'Enriched' is properly defined in that the manner of enrichment is disclosed to the purchaser such description is misleading. This opinion was based upon section 16 of the Bread and Flour Regulations 1963 which prohibits the advertisement of

bread in any words, desire or description which is calculated to indicate either directly or by ambiguity, omission or inference that the bread is 'rich' in milk, skimmed milk or milk solids. Whilst no mention of any particular ingredient was made regarding these rolls it would seem that only the gullible would accept the fact of 'enrichment' without knowing in which manner the product was enriched. It was somewhat surprising therefore to receive a letter from the bakers—a very large firm, saying, 'It would be helpful if the Analyst would indicate his requirements for acceptance of the term 'enriched' when applied to a product'! This is was felt was adequately expressed in the opinion given on the certificate as indicated above. It was also pointed out that the Labelling of Food Regulations 1970 will not permit the mention of any specific ingredient on a label unless they are included in a list of ingredients in order of magnitude. The obvious resolution of this difficulty was to abandon the superfluous and apparently unjustifiable description 'Enriched' altogether or give a list of ingredients and declare the manner of enrichment. The firm decided to adopt the former solution.

No doubt entry into the Common Market with its implicit closer connections with Europe will bring on to the British market many foodstuffs of European origin. Obviously unless our labelling regulations are integrated with European regulations there will be many instances of non compliance with British requirements. Already some instances have occurred. A Pizza Flour was rejected because it contained Propionic Acid. The opinion was expressed that, 'Propionic acid is permitted as a preservative in bread and flour confectionery but as the sample is not covered by the definition of these commodities it is considered that propionic acid is not a permitted preservative in this particular commodity'. Also the presence of the preservative should have been declared in the list of ingredients.

In delightfully fractured English the opinion was logically stated in the following terms.

"You stated that 'sodium propionate is permitted as a preservative in bread and therefore we think that it should be permitted also for pizzas because pizza flour is considered like bread flour. In fact Italian laws permit addition of 'sodium propionate' both for bread-like products and similar and flour confectionery.'"

It was therefore pointed out that the definition 'flour confectionery' only includes products complete in themselves and suitable for consumption without further preparation or processing other than heating. Therefore although according to our laws a finished cake or bun can contain propionate, a cakeflour is not permitted to do so. This odd situation was followed up by the reply:

'For Italy and the other countries of MEC, these distinctions does not make, since the one corresponds to the other.

We are sending goods in England and we are impelled by necessity to follow your advises . . .'

No doubt such Italians must think the English are an illogical lot, but I only wish my fractured Italian was as good as their English! Actually however the apparent illogicality is not really so ridiculous for we English permit this preservative (anti mould) in the made-up shop article but not in the do-it-yourself mix since these home-baked products are meant to be consumed without undue storage!

Another European article was labelled entirely in French. The article Crevettes would have meant more to an Englishman if it had been labelled 'Shrimps'. Any article not labelled in English does not conform to the requirements of the Labelling of Food Order 1953.

Sample No. 704 was labelled 'Beefburger Savouries' but was a meatless product. Only on the bottom of the box was the product labelled "'15 beefburger flavour savouries'", all references to the product upon the five major surfaces of the pack omitted the word 'flavour'. The product was considered to be labelled in a manner calculated to mislead the purchaser.

Ice Cream is required to contain no fat other than milk fat unless the words 'contains non-milk fat' appear in immedi-

ate proximity to the description 'ice cream'. The labelling of the main faces of the carton of sample No. 831 contravened this requirement in that the product was labelled 'Vanilla Ice Cream', with no reference to non-milk fat. It was rather surprising to consider a large national company disagreed with the above-mentioned requirement and stated, 'The Regulations do not specifically require the phrase "contains non-milk fat" to appear next to the description "Ice Cream" *wherever it appears*. The requirement is that the declaration should appear in "immediate proximity to such description" and we believe that our packaging complies with this'. In my opinion if the required words 'contain non-milk fat' do not appear in immediate proximity to the main label of the product this is tantamount to flouting the law, and merely reduces such labelling requirements to a mockery. The Dried Milk Regulations, 1965, lay down specifications for the size of lettering to be used in the approved declarations on containers of dried milk. In Regulation 5, Schedule 2, para. 3 (5), it is stated that the words 'not to be used for babies' shall be printed in letters not less than twice the height of the rest of the approved declaration, whereas on the container of sample No. 893 the printed letters were $\frac{3}{16}$ inch and $\frac{3}{8}$ inch high respectively. In addition to non-compliance with labelling requirements this sample also contained brown particles of charred milk rendering the product not of the quality demanded.

A further technical infringement of the Labelling of Food Order 1953 was made in the labelling of a Thick Pea Soup Mix in that the term 'dried vegetables' was used in the list of ingredients. The designation 'dried vegetables' is not an accepted generic description permitted in Schedule I of the Labelling of Food Order 1953, the variety of the dried vegetables must therefore be specified.

Stuffed 'Vine leaves (Dolmas) were submitted with a list of ingredients as follows: 'Vine leaves, Rice, Salt, Olive Oil, Onions, Spices with Genuine Olive Oil'. Since the salt content was 1.5% and the olive oil was 4.9% the list of

ingredients was obviously not in the quantitative order as required.

Toxic metals

In recent years there has been much concern in the national and world press regarding the occurrence of toxic metals as contaminants of foodstuffs and the environment. Much of this concern stems from a realisation that with increasing industrialisation pollution of man's environment and indeed of the Earth's biosphere, is increasing. Much of this pollution could be avoided if the necessary avoidance costs were absorbed in the cost of the articles or services provided. However, the economic necessity of meeting competition has resulted in cost cutting and the obvious place for this saving, especially in the past has been in dealing with undesirable by-products of industry. Thus the eyesore of slag and waste heaps in mining areas has been accepted. These blots on the landscape need never have happened if the cost of disposal had been included in the cost of the product. Less obvious is the disposal of industrial wastes, sewage, etc., into streams and rivers, but the deterioration of the quality of the environment and life in general is the result of such irresponsibility. Slowly wild life, animal, fish, fowl and plant life has in many cases been affected or eliminated. At last people, government and local authority have been made aware of the problems and their awareness has in many cases been due to a certain sensationalism created by anti-pollution campaigners. It is, however, to be deprecated that certain scientists seem bent on creating undue public concern thereby causing unnecessary apprehension with regard to the use of certain pesticides, artificial sweeteners and the distribution of toxic metals. Probably they justify their pronouncements by the necessity to shock authority into dealing with what is truly a national and world problem which could affect the health and well-being of every person. However, after such sensational statements, subsequent follow-up investigation has often

proved that concern has been based upon erroneous research or even lack of knowledge of the kind of environment that has always existed. Is it noteworthy that many of these panics originate from American research? Can the conditions of the research problem truly be related to actual living conditions? These facts, in my opinion, should be answered before resorting to statements causing unnecessary public apprehension and concern.

In justification of this opinion, the instance of the occurrence of Mercury in Tuna fish may be quoted. The sale of this commodity was drastically reduced by the announcement that this fish was highly contaminated with Mercury. This Mercury scare did indeed prove that officialdom can sometimes be roused to a quicksilver activity, for within a week the Government Chemist had confirmed the presence of Mercury in tuna-fish, but not in amounts to justify its withdrawal from sale. Nevertheless, the sales of tuna fish had been depressed and the housewife still regards that tin of tuna on the super-market shelf with an aura of suspicion. The sequel to this tale is that analysis of preserved tuna caught in the 1800's also had its quota of Mercury, and a recent analysis of Mastodon remains would equally be inedible because of its quicksilver quota! The true fact is that little knowledge was available regarding the natural Mercury content of tuna fish, and so true comparison with recent evaluation was not possible.

Cadmium is another metal which has also recently caused concern. Like Mercury, irresponsible industrial activity in Japan focussed attention upon the toxic effects of this metal. Massive quantities polluted drinking water and rice paddies resulting in acute cadmium poisoning of the local inhabitants of the river into which the residues from mining and industrial activity was allowed to flow. The resultant symptoms of these unfortunate people was a crippling disease with painful bone deformities such that the condition is referred to as 'itai-itai' disease—a Japanese expression meaning 'it hurts'. From this condition some

indications were drawn that cadmium has some effect in heart condition, and so much attention has recently been focussed upon cadmium in the environment. There can be no doubt that cadmium is a toxic metal, but until the recent developments in the technique of Atomic Absorption Spectrophotometric methods for the determination of trace metals, few determinations of cadmium in foods or soils had been carried out. Since the acquisition of the necessary instrument, several hundred foods and soils have been examined for cadmium in our laboratory. Levels up to 1 part per million appear to be usual with higher amounts—up to 4 p.p.m. in crab. Many soils have also been examined for cadmium, reference to which is made later in a report upon the Beaumont Leys Farm soils.

Many ponderous pronouncements have recently been produced by certain academics regarding the toxic effects of lead. For many years lead has been known to be an accumulative poison, not readily eliminated from the body so that the regular intake of small amounts could finally result in chronic lead poisoning. For this reason, for the past 20 to 30 years, little lead piping has been used in drinking water systems and plastic pipes have replaced all the old beer systems in public houses which did contribute much to adult male lead poisoning cases in Leicester several decades ago. In recent years, however, it has been stated in medical circles that traces of lead can affect brain development in babies, a pronouncement which resulted in the Toys Safety Regulations, 1967 in which the lead content of the paint film used on toys is limited to a maximum of 5,000 parts per million (0.5%). Many cases of lead poisoning in babies have indeed been due to the nibbling of paint on cots and toys, and it is imperative that youngsters should be protected from such a hazard. However, lead is a metal so widely used in many ways that it has become a ubiquitous pollutant.

Lead is used in the form of tetra ethyl (or methyl) lead as an anti-knock agent in petrol. Without its use the modern

high performance high-compression internal-combustion engine would not run efficiently unless more costly fuels were used. Leaded petrol is permitted by British Standard Specification No. 4040 to contain up to 3.8 g of lead per gallon. All this lead content is emitted in the exhaust fumes of the motor-car in fine particulate form into the atmosphere, eventually being precipitated as dust over the countryside. Ultimately it is washed by rain into the sewers and finishes up as a constituent of sewage sludge.

During 1956 investigations were carried out by the University of Wales at Sutton Bonington and High Marnham in Lincolnshire, to determine trace metal contents of atmospheric dust. At Sutton Bonington not less than 2,000 p.p.m. of lead was found, whilst in the rural district of High Marnham, 1,200 p.p.m. was recorded. These facts, together with the concern regarding heavy metals in Beaumont Leys Farm soils initiated an investigation into the lead contents of children's blood, carried out with the co-operation of Dr. Simpson, (Paediatrician at the Leicester hospitals). Samples of blood made available were analysed for lead content with the following results expressed in histogram form. Blood lead concentration are plotted against numbers of samples.

It will be seen that very few samples contained more than 30 micrograms of lead per 100 mls; indeed the majority contain 10–14 micrograms per 100 mls. These figures compared with 80 micrograms per 100 mls, above which clinical symptoms of lead poisoning are said to be imminent, would indicate a satisfactory state of affairs in Leicester. Satisfactory, but obviously whilst there is lead in the atmosphere which need not be there except for man's mismanagement, one cannot say there is no need for concern.

Much concern has been expressed regarding the toxic metal concentrations in the soils of the old City Sewage Farm known as Beaumont Leys. As a consequence much work is being done by the City Analyst's staff on this problem.

Concern was initiated by the Ministry of Agriculture

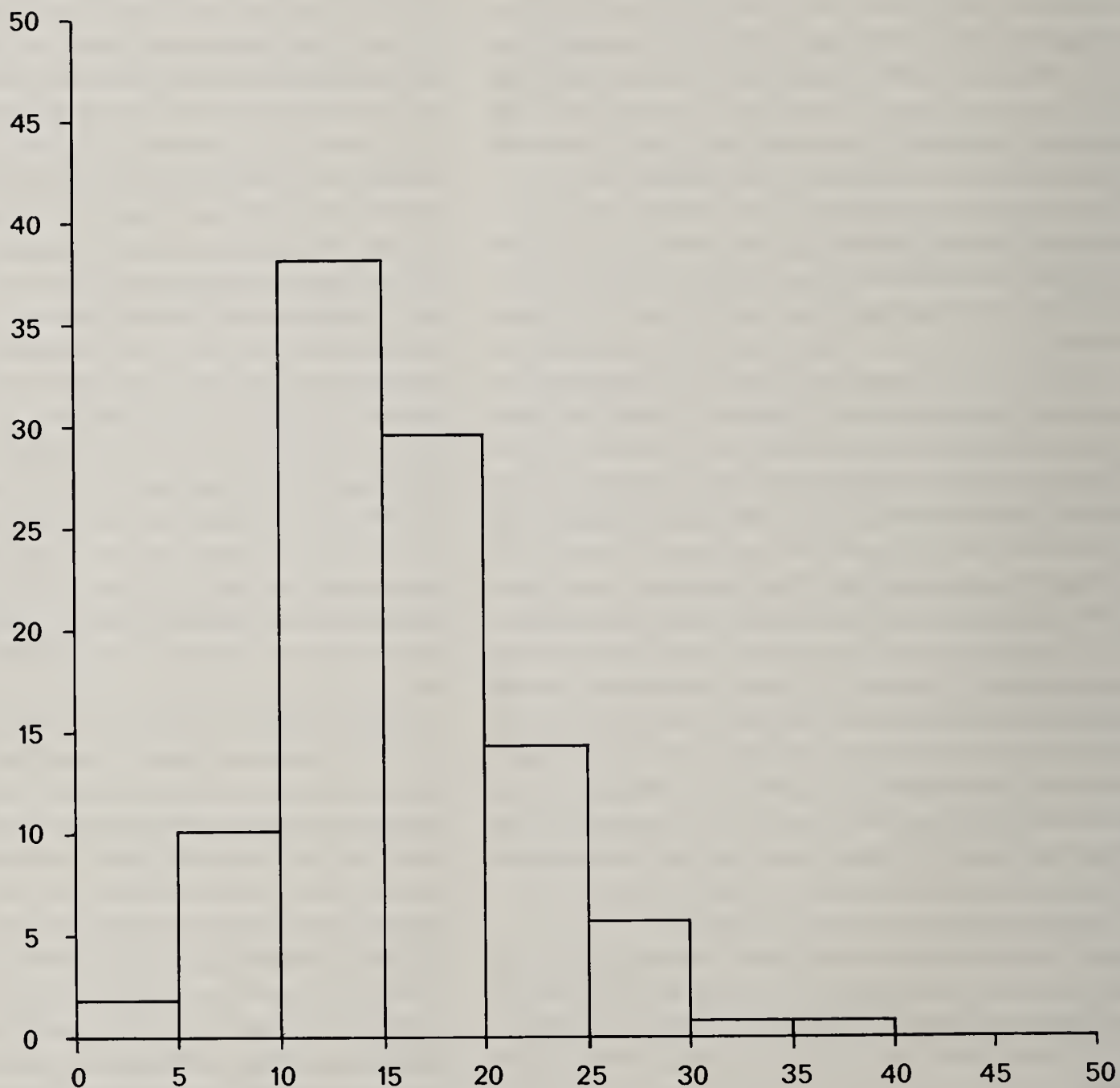
Advisory Service (M.A.A.S.) who were primarily concerned with plant toxicity (phytotoxicity) of the soil. This toxicity is expressed in terms of 'zinc equivalent' and embraces values for zinc, copper and nickel, being calculated from the formula $\text{Zinc Equivalent} = \text{Zinc} + 2 \times \text{Copper} + 8 \times \text{nickel}$ in terms of parts per million of these metals in the soil. In this zinc equivalent formula, twice the amount of copper (in p.p.m.) and eight times the nickel is included since these metals are reputed to be respectively 2 and 8 times as toxic as zinc towards plants. A maximum value of 250 was stated, whereas values ranging from 500 to 5,000 and more were obtained from the Beaumont Leys soil. Concern regarding safety was therefore justified and this concern was considerably increased when zinc contents of cereals and other plants were stated to be in excess of the recommended maximum of 50 p.p.m. Subsequently investigation showed that the values issued by the Ministry were calculated upon dehydrated samples and not on the food stuffs as consumed. Ministry concern was however, with plant toxicity rather than animal poisoning, and no figures were available for metals such as lead, cadmium, arsenic and mercury. The laboratory was therefore presented with the task of evaluating the problem of safety of this land as a potential building site.

Initially some 34 samples were submitted for examination, these samples consisting of topsoil and subsoil (18" depth) from 17 locations on the so-called 'Pilot Development' site. These were analysed to determine whether deep ploughing would mix the soil sufficiently to reduce the toxic metal content. The results showed that even at 18" depth the metal contents were of the same order as in the topsoil and thus deep ploughing would not help reduce the problem.

Obviously the danger lies not in the zinc, nickel or copper content of the soil, but whether sufficient of these metals would be absorbed in the edible crops grown upon the soil. Also it was realised that although zinc and copper can be poisonous to humans, they are self eliminating in that they

**DISTRIBUTION OF BLOOD-LEAD CONCENTRATIONS OF
LEICESTER CHILDREN DURING 1971**

NUMBERS
OF SAMPLES
EXAMINED



LEAD CONTENT IN MICROGRAMS PER 100 MILS. OF BLOOD

cause sickness and diarrhoea and are thereby expelled from the body, whereas cadmium and lead are not. Thus cadmium and lead and also mercury and arsenic had to be considered. At the time these examinations were called for there was little time to raise crops upon the soil, but vegetation was gathered from the site and comprehensive analyses performed. The results showed that whilst green crops tended to take up a little more zinc than controls obtained from other places, root crops (potatoes especially) showed

no abnormal concentration of heavy metals. Indeed the results shown below relating to potatoes show almost identical metal contents. Investigation showed that there was no need for undue concern relating to toxic metal contents in the plants examined. However, since no salad or leguminous crops were examined, it was considered it would be unrealistic to assume complete safety until such samples had been grown upon the soil and analysed. Such investigations are being organised in the current year (1972).

Toxic Metal Contents of Potatoes (in p.p.m.)

	<i>Zinc</i>	<i>Copper</i>	<i>Nickel</i>	<i>Chromium</i>	<i>Lead</i>	<i>Cadmium</i>
<i>a</i> Grown on Beaumont Leys	3.50	1.40	1.60	0.04	0.26	0.06
<i>b</i> Other samples from general retail sale	3.00	1.00	0.90	0.09	0.30	0.06

Following a report from a Medical Officer of the Department of Health and Social Security, much greater concern was placed upon lead and cadmium contents in these soils, whilst investigation into arsenic and mercury contents were also called for. A comprehensive and detailed analytical programme on the whole 1,800 acre site is at the present time being carried out. It is, however, already apparent that the area can be classified into two categories: (a) an area subjected mainly to effluent irrigation and (b) the area used for sludge spreading. The latter area in general carries a greater burden of toxic metallic contamination, the contamination from lead appears to be of greatest concern and so calls for more detailed comment in this report. In the effluent irrigation areas, lead content is more concentrated at the immediate points of the irrigation outlets, but overall the lead content is generally not greater than 300 parts per million, with much of the area being less than this content. In the sludge spreading areas, the greatest amounts of lead so far determined are approximately 2,000 p.p.m., but these quantities would appear to be restricted to an apparently well defined and comparatively small area. These figures should be compared with a natural

lead soil content of up to 300 p.p.m. Analysis of surrounding soils in the Charnwood area would indicate a natural lead content of up to 50 p.p.m.

However, having determined total lead contents of the soil, one should consider a factor which has been overlooked by a number of 'experts' who by virtue of academic status in faculties far removed from toxicology, seek to air their views and pontificate upon the dangers of lead. The sequel to such pronouncements has been to cause a certain amount of what might be unnecessary alarm especially to parents of young families. Having obtained values of total lead contents of soils, one must determine if the lead is 'available' in toxic form. It is this factor which experts so quick to come to a decision have not appreciated. As regards uptake of lead into plants, one must consider whether that lead is fixed in the soil or can be rendered soluble under conditions of plant growth and so made available to the plant. Determinations so far made in our laboratory concerning several hundred soil samples, indicates that the lead is rendered insoluble by combination with the organic matter of the soil. Values of 'available' lead in sludge spreading areas are of the order of 10 p.p.m.,

maximum values being about 14 p.p.m. In effluent irrigation areas values of the order of 3 p.p.m. are general. Compare these values with the total lead contents indicated above (i.e. 2,000 p.p.m. in sludge areas and 300 p.p.m. in effluent areas) and a true indication of the danger due to lead in the soils in their present condition is given.

Perhaps the moral provided here is that whilst it would be imprudent to neglect a situation likely to become a potential public health hazard, a scientist is imprudent to make 'expert' statements which do not consider all the likely factors involved in a situation.

Novel Protein Products

Reference is made to novel proteins in the legal section. Ministerial interest in these products, which are comparatively new on the United Kingdom market, is evident by the fact that a review on such materials has been initiated.

There is some misconception regarding these products since in the lay mind they are looked upon as synthetic matter, and not therefore as wholesome as good 'red meat' which the products often are made to simulate. The word 'synthetic' is not a fair description since the basic ingredient is natural protein. It so happens that the protein of the soya bean or field bean is best suited for the texturising process, but other proteins can be used or blends prepared to produce products containing the desired proportions of the various amino acids. This texturising, in one process consists of extruding the protein matter into fibres which are hardened in a coagulating bath; the fibres when bunched together simulate the structure of meat and require a convincing amount of mastication before being swallowed and hence give the 'chewability' characteristic of meat. Meat, however, is not the only guise in which this vegetable protein can be presented to the consumer, and good simulations of cheese have been prepared. It is a pity that this protein food has to be presented to the public for consumption in the guise of an already known product, for it

then becomes accepted as a substitute for the genuine article and not as a product in its own right. Protein is a necessary food and in the form of meat, an exceedingly expensive one. These novel proteins have low cost compared with meat since an acre of land can produce 800,000 calories in terms of plant protein, but only 200,000 calories from animal protein. One must also take into consideration that foods prepared from textured vegetable proteins are more consistent in quality than meat which is often uneatable because of the presence of unacceptable amounts of sinew, gristle or fat, or just because it is too tough to eat. It is therefore feasible that textured vegetable protein offers possibilities of producing good quality foods high in protein content and comparatively low in price; an ideal combination to cater for the needs of the less affluent sections of society such as elderly pensioners, large families etc.

The use of these simulated products, however, does pose certain problems with regard to British Food Law. If used as an ingredient in meat products, those meat products must still contain the stipulated amount of meat. Thus a pork sausage must still contain 65% of pork, a meat pie 25% of meat, and so on, the vegetable protein is only permissible as an extra ingredient and not as a substitute for real meat. The possibility that small businesses and catering companies might use texturised vegetable protein as a cheap substitute for meat has tended to derate this promising food material from the status which it truly deserves as a highly nutritious and relatively low-cost food, capable of presentation in a variety of attractive dishes.

During the year specimens of spun texturised vegetable protein prepared from the field bean, coloured and flavoured to simulate beef, were examined for the Central Purchasing Department, the object being to investigate its acceptability for school meals. As part of this examination, a 'meat' pie was prepared and served to the unsuspecting laboratory staff who savoured its delights with relish and without complaint—possibly a compliment to the cook! Analytical

comparisons with beef showed that the vegetable protein was of comparable value, but no doubt much prejudice must be overcome before these 'novel proteins' are accepted as the foods they are in their own right. However, time will tell—margarine is now respectable, indeed preferred by some to butter!

Road Safety Act, 1967

Persons apprehended under this Act are provided by the police with a part of the specimen of blood or urine which they are obliged to supply. This laboratory provides a service whereby such persons may, on payment of a fee of £6.30, have such samples examined for the content of alcohol. During 1971, 225 specimens of blood and 6 of urine were examined.

The limits of alcohol prescribed under the Act are 80mg/100ml. of blood and 107mg/100ml. of urine. The levels of alcohol found in the samples are summarised below:

Blood Samples (225)		Urine Samples (6)	
<i>Alcohol mg-100 ml.</i>	<i>No. of samples</i>	<i>Alcohol mg-100 ml.</i>	<i>No. of samples</i>
Below 80	53	Below 107	Nil
80 – 100	19	107 – 150	1
100 – 150	42	150 – 200	2
150 – 200	35	200 – 250	1
200 – 250	19		
250 – 300	6		
Over 300	3		
Unacceptable samples	2		
Unwilling to pay fee	46	Unwilling to pay fee	2

It is gratifying to record that 22.9% of persons submitting their specimens were afforded the mental relief undoubtedly suffered on such occasions.

Atmospheric Pollution

During the year, daily readings of atmospheric smoke and sulphur dioxide concentrations were carried out at four sites in the City. The meters are located at the Water Department, Nedham Street, South Fields Library, the Engineer's Department, Grey Friars, to all of whom our thanks are due for housing the apparatus. A further meter is maintained at Midland House, and we are grateful to the Smoke Control Department for their co-operation. The apparatus at Wanlip has also continued in use. The annual average figures are given in the table below:

	Site	Nedham Street	South Fields Library	Grey Friars	Midland House	Wanlip
Average Smoke Concentration (micrigrams-metre ³)	1971	45	35	51	53	35
	1970	52	34	46	54	29
Average Sulphur Dioxide Concentration (micrograms-metre ³)	1971	123	75	152	117	39
	1970	119	72	153	132	26

It can be seen from the annual figures that the situation remains very much as it did last year. The levels of sulphur dioxide in the City Centre are still considerably higher than those for smoke, due to the use of Smokeless fuels, which still produce sulphur dioxide although they do not produce smoke.

Monthly determinations of tar, ash, soot and other deposit continued to be made at three sites, namely the Town Hall, the Emily Fortey School and the City General. We thank those who allow us to maintain these sites.

The annual results are summarised in the following table:

Deposited Matter

(tons-sq.mile per month)	Town Hall		Emily Forte		City General	
	1970	1971	1970	1971	1970	1971
Tar	0.04	0.04	0.03	0.02	0.03	0.02
Ash	2.21	2.41	1.38	1.21	1.74	1.73
Soot	6.91	7.66	2.61	2.67	3.06	4.64
Soluble deposit	4.98	5.01	3.77	3.59	3.80	3.87
Total deposit	14.14	15.12	7.79	7.49	8.63	10.26

Fertilisers and Feeding Stuffs Regulations

66 samples were submitted during the year, consisting of 16 feeding stuffs, of which 3 were rejected, and 50 fertilisers, of which 14 were rejected, making a total rejection rate of 26% a rather higher figure than that of 1970. Details are shown below in the table.

Under the Fertilisers and Feeding Stuffs Regulations, limits of variation are laid down for the declared constituents, and we are obliged to reject the sample if the analysis falls outside these limits even if we do not consider that the purchaser is being prejudiced.

Fertilisers

	Type	No. submitted	No. rejected	Remarks
	Sulphate of Potash	2	.	.
	Bonemeal	3	.	.
	Hoof and Horn	5	4	Samples 3, 18, 25, 26 all contained excess nitrogen. Sample 26 also contained live beetles.
	Dried Blood	2	.	.
	Nitrate of Soda	2	.	.
	Superphosphate	1	.	.
	Sulphate of Ammonia	1	.	.
	Nitrochalk	1	.	.
	Compound fertiliser in tablet form	2	.	.
	Lawn fertiliser	2	.	.
	Liquid fertiliser (incl. liquid lawn fertiliser)	10	.	.
	Compound fertilisers: Rose fertiliser	3	1	Sample 40, deficient in soluble phosphate, also excess nitrogen.
	Chrysanthemum fertiliser	2	2	Sample 53, excess potash. Sample 63, reversion of phosphate, also excess potash.
	General fertiliser	14	7	Sample 17, deficient in potash. Sample 21, labelling offence. Samples 27 & 28 reversion of phosphate. Sample 51, excess insoluble phosphate. Sample 52, deficient soluble phosphate. Sample 62, deficient soluble phosphate.
	Totals	50	14	

Feeding Stuffs

	Type	No. submitted	No. rejected	Remarks
	Poultry Foods	11	2	Sample 55, excess of oil. Sample 58, deficient in fibre.
	Pig Foods	5	1	Sample 9, excess protein.
	Total	16	3	

Consumer Protection and Trades Description Samples

These samples were submitted by the City of Leicester Chief Public Protection Officer or the County Consumer Protection Officer under the Consumer Protection or Trades Descriptions Acts.

For the City Public Protection Officer the following samples were examined:

Petrols, Fuels etc.

98 samples of petrol were examined for verification of their star ratings (octane numbers), 2.2 of which were submitted as control samples. 4 samples received adverse reports: a 4 star sample was judged to be not more than 3 star quality: a 5 star was only 2 star whilst from this garage a 2 star petrol gave a 5 star rating—an obvious error on the part of the person supervising the filling of the tanks. A further sample reputed to be a 4 star petrol consisted of 98% water containing a trace (30 p.p.m.) of an anionic detergent.

A two-stroke, I.C. engine fuel was examined for lubricant content and was found to contain 5% oil. A sample of White Spirit was found to conform to the appropriate British Standard Specification (B.S. 245: 195.6) and 3 paraffin samples satisfied the requirements of B.S. 2869: 1970.

Of eleven samples of distilled water obtained from garages no fewer than 8 were rejected as unsuitable for use in lead-acid accumulators. Five of these samples consisted of a proprietary brand of 'Battery Top-up', three of which contained solid microcrystalline deposits of calcium carbonate in the plastic containers and up to 1.8% of dissolved matter consisting essentially of calcium and sodium bicarbonates. The samples were rejected as being 'particularly detrimental to lead-acid batteries'.

A car radiator antifreeze was found to contain anti corrosion agents typical of both British Standard A and C type antifreezes. The B.S. specification does not advise the mixing of these inhibitors.

Six samples of preparations used for car body finishing were examined, some due to alleged failure in use and some due to extravagant claims and cost. All samples appeared to be adequate if used precisely according to instructions though it is doubtful if the high costs of some of them could be justified.

Following a complaint of lack of grit in a sample of John Innes Compost (No. 3) four samples were examined for sand content and added nutrients. All specimens appeared to satisfy the specification for John Innes compost (No. 3).

Two wig samples were found to be constructed from human hair as claimed.

Following a complaint regarding the performance of a so-called 'Lustre Polish' obtained from an exhibition two samples were examined. Both consisted of a mixture of an acidic aqueous phase and an organic hydrocarbon liquid phase. The organic phase was composed of a mixture of kerosene and liquid paraffin type hydrocarbon oils in the appropriate ratio of 1 to 2 respectively.

One sample contained approximately 60% of aqueous phase whilst the other contained 30%.

On drying both samples left an oily film which was not absorbed on non-porous surfaces. The polish was judged to be unsuitable for leather and unacceptable in performance.

A sample of vinyl-coated wallpaper proved to be an interesting investigation. The purchaser complained that the paper was not of the quality of the pattern chosen and indeed examination by the technique of attenuated total-reflectance infra-red spectrophotometry it was shown that the paper was inadequately coated with the vinyl finish.

A reputed 'gold' chain, each link marked 18 CT was submitted for verification. The opinion was formed that it was made from brass since its specific gravity was only 8.7 whereas gravity of 18 carat gold (gold-copper alloy) is 16.6.

One packet of coloured pencils and 5 toys were examined for toxic metal contents. All were reported satisfactory.

Four boxes of 'safety' matches were examined and reported as dangerous since when struck a minimum of 25% of the matches ignited explosively such that burning particles were projected from the head of the struck match. The real danger of hot particles entering the eyes or burning the face, hands or clothing of the user could not be ignored.

A Cushion from a new settee was examined because of a complaint that it was dirty. Black particles were observed microscopically which had the characteristics of coal dust. It was significant that the purchaser of the settee was a coalman.

A complaint regarding the strength of a household bleach was not substantiated; it was found to contain 4.9% of available chlorine, whereas normal household bleach contains approximately 5% of available chlorine.

Four varieties of cosmetics were examined following a complaint that irritation of the skin resulted after use. In the case of the skin lotion which had a pH value of 9, that is it was excessively alkaline it was considered the complaint was justified.

Four 'bread' samples were examined to ascertain whether these specimens came within the designation of 'bread' according to the Bread and Flour Regulations 1963. All contained caraway seeds which is a permitted ingredient under the above-mentioned regulations. Such content therefore did not preclude the samples being designated 'bread', and as a consequence they were subject to requirements under the Weights and Measures Act.

The County Public Control Officer submitted 123 samples for examination. 119 consisted of petrol samples of which 5 were rejected because of irregularities in star ratings, mainly due to the malfunctions of blender pumps. Two 2-stroke petrols were examined, one being found to be deficient in lubricant. A deposit found in the distilled water container of a garage was found to consist of bacteria of the Actinomycetales order. A paraffin was tested for smoke

point and compliance with the British Standard Specifications 2869:1970.

The following table summarises the samples submitted by the City and County Consumer protection departments.

City Protection Department

<i>Sample</i>	<i>No. submitted</i>	<i>No. unsatisfactory</i>
Petrols	98	4
2 stroke fuel	1	.
White Spirit	1	.
Paraffin	3	.
Distilled Water	11	9
Antifreeze (Radiator)	1	.
Car Paints, etc.	6	.
John Innes Composts	4	.
Wigs	2	.
Polish	2	2
Vinyl coated Wallpaper	1	1
'Gold' Chain	1	1
Toys	6	.
Matches	1	1
Cushion	1	1
Bleach	2	.
Cosmetics	4	1
Foods	5	.
	150	20

County Public Control Department

<i>Sample</i>	<i>No. submitted</i>	<i>No. unsatisfactory</i>
Petrols	119	5
2-stroke fuels	2	1
Paraffins	1	.
Distilled Water	1	1
	123	7

Miscellaneous samples examined for Corporation Departments

<i>Health Department</i>			
Atmospheric Pollution samples	2782		
Blood-Urine samples for Lead-Mercury content	127		
City Supply waters for bacteriological purity	602		
Swimming Bath waters	77		
Waters (effluents, leakage waters, sewage etc.)	18		
Miscellaneous samples	100	3706	
<i>Public Protection Department</i>			
See Trades Description Act for details	130	130	
<i>Welfare Department</i>			
Boiler Waters	98	98	
<i>Central Purchasing Department</i>			
Preserves	25		
Soup	1		
Textured Protein	1		
Dried Milk	1		
Antifreeze	7		
Detergents	5		
Cleaning Materials	18		
Bleaches	3	61	
<i>Education Department</i>			
Fibres	1	1	
<i>City Architect's Department</i>			
Waters	3		
Painted Timber and Paint	2		
Mortar	1	6	
<i>City Engineer's Department</i>			
Cellar Water	1		
Fuel Oils	2	3	
<i>City Estates Department</i>			
Cellar Water	1		
Soils	329	330	
<i>Housing Department</i>			
Plant Waters	2	2	
<i>Safety Officer</i>			
Asbestos	1	1	
<i>Water Department</i>			
Soil	1	1	

Samples examined for other Local Authorities

Ashby R.D.C.	7		
Ashby U.D.C.	8		
Barrow R.D.C.	9		
Billesdon R.D.C.	52		
Blaby R.D.C.	14		
Castle Donington R.D.C.	4		
Coalville U.D.C.	18		
Daventry C.B.C.	1		
Hinckley U.D.C.	152		
Leicestershire County Council	154		
Loughborough M.B.	2		
Lutterworth R.D.C.	10		
Market Bosworth R.D.C.	17		
Melton & Belvoir R.D.C.	4		
Melton Mowbray U.D.C.	4		
Northampton R.D.C.	1		
North West Leicestershire Water Board	210		
West Kesteven	1		
Wigston U.D.C.	2	670	

Consulting Service

<i>Food and Drug Samples</i>			
Flour Confectionery	6		
Meat Products	50		
Milk Products, Cheese etc.	8		
Sugar, Soft Drinks	3		
Herbs, Spices, Pickles etc.	5		
Cereals	6		
Medical Preparations	28	106	
<i>Miscellaneous Samples</i>			
Waters, effluents, sewages etc.	146		
Clothing, fabrics, man-made fibres etc.	15		
Cements, Concretes, Aggregates, Deposits etc.	70		
Timber, Paper etc.	36		
Metals	1		
Industrial Chemicals	51		
Petrol, Fuel oils etc.	32		
Fertilisers	2		
Blood and Urines for Alcohol	231	584	

Table 1 Number of routine samples of raw and final waters examined during the year ended 31st December, 1971.

Source of Sample			
Waters before and during treatment	Bacterio-		
	Chemical	logical	Biological
Swithland reservoir	46	49	53
Cropston reservoir	85	89	70
Thornton reservoir	94	95	80
Waters in supply			
River Dove Water Board Aqueduct	48	52	1
Derwent Valley Water Board Aqueduct	87	100	.
Hallgates Filter Station	87	100	.
Thornton Treatment Works	94	103	.
Service Reservoirs	176	210	.
Totals	717	798	204

I am indebted to Mr. J. W. Seddon, B.Sc., C.Eng., F.I.C.E., M.I.Mech.E., M.I.W.E., Water Engineer, for the following report on the work of his Department during 1971.

1 a The water supply of the area has been generally satisfactory in

(i) quality and (ii) quantity.

b Regular cleansing of service reservoirs and distribution mains has continued throughout the year. Pyrethrin was applied at a dose of 0.01 mg per litre for a period of 5 days commencing 20th September 1971 in order to control *Asellus aquaticus* in the distribution system. Contamination of three service reservoirs resulted from a burst main at Scraptoft in August 1971 and was rectified by chlorination of the reservoirs.

c (i) At 31st March 1971 the number of dwelling houses supplied in the City of Leicester was 95,454 and the population was 276,690.

(ii) Houses supplied by standpipes are not recorded separately but as far as is known there are none.

d Fluoride tests were not done in 1971. Fluoridation of the City supply has not yet been implemented.

2 a Full details of bacteriological and chemical examinations of raw and treated water are given in the enclosed Summary of Water Examinations for 1971.

b No instance of plumbosolvency has been reported.

WATER SUPPLIES

Table 2 Summary of bacteriological examinations

Water before treatment																	
Frequency distribution																	
Source		No. of Samples	Presumptive Coliform organisms MPN per 100 ml					Presumptive Esch. Coli, type 1 MPN per 100 ml					No. of Samples	Agar plate count per ml (24 h at 37°C)			
			0	1-9	10-99	100+	1000+	0	1-9	10-99	100+	1000+		0-9	10-99	100+	1000+
Thornton Impounding Reservoir		95	9	23	21	31	11	20	20	17	29	9	95	0	40	55	.
Swithland Impounding Reservoir		49	.	8	14	22	5	1	9	13	21	5	49	9	35	5	.
Cropston Impounding Reservoir		89	3	23	26	29	8	6	25	29	25	4	89	26	57	6	.

Table 3 Summary of bacteriological examinations

Water in supply Frequency distribution													
Source	No. of Samples	Coliform organisms MPN per 100 ml				Esch. Coli Type 1 MPN per 100 ml				No. of Samples	Agar plate count per ml (24 h at 37°C)		
		0	1-2	3-10	10+	0	1-2	3-10	10+		0-9	10-99	100+
Thornton Final water at Works	99	99	.	.	.	99	.	.	.	99	74	24	1
Dove Treated water aqueduct at Hallgates	52	52	.	.	.	52	.	.	.	52	43	9	.
Derwent Treated water aqueduct at Hallgates	100	100	.	.	.	100	.	.	.	99	99	.	.
Hallgates Final water at Works	100	100	.	.	.	100	.	.	.	100	96	4	.
Hallgates No. 4 Reservoirs Blended supply to City	155	155	.	.	.	155	.	.	.	155	153	2	.

Table 4 **Average chemical analyses of waters in supply 1971**

Results in parts per million (mg. per litre)

	Thornton final water at Works	Dove final water at Works	Dove aqueduct at Hallgates	Derwent aqueduct at Hallgates	Hallgates final water at Works
pH Value	7.4	7.85	7.8	9.0	7.4
Electrical Conductivity (Micromhos/Cm ³)	585	575	565	140	415
Colour (Hazen units)	8	5—	6	5	6
Turbidity (E.B.C. units)	0.34	0.05	0.09	0.06	0.06
Nitrogen (as N) Ammoniacal	0.02	0.03	.	0.01	.
Albuminoid	0.02	0.13	.	0.02	.
Nitrite	0.000	0.000	.	0.000	.
Nitrate	.	2.6	.	0.3	.
Permanganate Value (as O)	2.7	1.2	.	0.6	1.2
Total Alkalinity (as CaCO ₃)	98	134	136	13	81
Hardness (as CaCO ₃) Carbonate	98	134	136	13	81
Non-carbonate	139	145	149	36	112
Total	237	279	285	49	193
Calcium	148	209	213	34	123
Magnesium	89	70	72	15	70
Total Dissolved Solids (at 180°C)	420	415	410	90	.
Silica (as SiO ₂)	.	3.8	.	4.9	.
Chloride (as Cl)	73	40	42	12	40
Sulphate (as SO ₄)	100	117	108	33	81
Phosphate (as PO ₄)	.	0.03	.	.	.
Sodium (as Na)	40	16	18	6	.
Iron (as Fe)	0.04	0.02	0.03	0.02	0.03
Manganese (as Mn)	0.04	0.00	0.00	0.03	0.01
Aluminium (as Al)	0.14	.	.	0.05	0.12
Residual Chlorine Free	0.5	0.3	0.05	0.0	2.5
Total	0.75	0.45	0.2	0.0	2.8
Synthetic Detergent (as Manoxol)	.	0.04	.	0.02	.

Table 5 Average analysis of blended supply to Leicester 1971

The table shows the analytical averages for 1971 of the blended supply from the Hallgates Service Reservoirs and the highest and lowest monthly averages or individual results during the year.

Results in milligrams per litre (parts per million) unless otherwise stated.

	<i>No. of Tests</i>	<i>Results to nearest</i>	<i>Lowest</i>	<i>Highest</i>	<i>Average</i>
pH Value	139	0.05	7.55	7.95	7.8
Electrical Conductivity (micromhos/Cm ³)	139	5	340	370	355
Colour (Hazen Units)	139	1	below 5	6	below 5
Turbidity (E.B.C. Units)	139	0.01	0.05	0.16	0.08
Nitrogen (as N) Ammoniacal	10	0.01	0.00	0.03	0.01
Albuminoid	9	0.01	0.03	0.11	0.05
Nitrite	9	0.001	0.000	0.000	0.000
Nitrate	9	0.1	0.5	1.5	1.1
Permanganate Value (as O)	10	0.1	0.7	1.2	0.9
Total Alkalinity (as CaCO ₃)	10	1	65	82	72
Hardness (as CaCO ₃) Carbonate	10	1	65	82	72
Non-carbonate	.	1	88	101	94
Total	96	1	156	172	166
Calcium	10	1	108	124	119
Magnesium	.	1	42	52	47
Total Dissolved Solids (at 180°C)	3	5	200	260	220
Silica (as SiO ₂)	3	0.1	3.4	4.5	4.0
Chloride (as Cl)	10	1	25	30	27
Sulphate (as SO ₄)	3	1	65	73	69
Sodium (as Na)	3	1	10	14	12
Iron (as Fe)	46	0.01	0.02	0.04	0.03
Manganese (as Mn)	44	0.01	0.01	0.03	0.02
Aluminium (as Al)	45	0.01	0.01	0.07	0.04
Synthetic Detergents (as Manoxol)	3	0.01	0.00	0.07	0.04
Residual Chlorine: Free	139	0.05	0.05	0.35	0.15
Total	139	0.05	0.02	0.55	0.3

Number of samples examined 139

I am indebted to Mr. W. R. Shirrefs, T.D., M.I.C.E., M.I.Mun.E., A.M.P.T.I. for the following statement on sewage disposal.

Sewerage improvement schemes estimated to cost £436,000, (excluding washlands and brook improvements) were in progress or completed during 1971-72.

The main purposes of these schemes were to enable development to proceed or to alleviate flooding.

A number of instances of pollution were thoroughly investigated and measures put into effect to prevent any recurrence, where this was possible.

The sewage treatment plant at Wanlip continued to function satisfactorily and the effluent produced complied fully with the current standards required.

However, tertiary treatment is to be installed in the near future in order to improve the effluent to the standard required by the Trent River Authority in 1975.

Cremation

I am indebted to Mr. D. G. Clarke, Superintendent Registrar for the following information:

	1971	1970	1969	1968	1967
Yearly figures of cremations at the Leicester Crematorium	3190	3110	3148	3071	2728
Registration area of cremations					
City residents	2202	2140	2182	2088	1900
Non-city residents	988	970	966	983	828

Re-housing on Medical Grounds

A total of 180 applications were received, and in view of the very small number of houses available strict criteria have to be adopted for recommendation to the Housing Committee. Thirty-one cases were considered, and of these 26 were approved. However, only ten were actually rehoused during 1971 after approval. Of the remaining 16, one applicant died and four are waiting for special requirement to fall vacant in a narrow geographical area. Two owner occupiers are waiting for the legal formalities of the purchase of their property to be completed by the Town Clerk's department or Estates department. One did not reply to the offer of accommodation. The remaining 8, three of which were only approved at the meeting on 31.12.71 are awaiting rehousing in 1972.

Of the outstanding cases from 1970, eight have been rehoused. The remainder either refused the offered accommodation or are awaiting placement within a limited area.

Applications received during 1970 and 1971

	Total Number	Number of cases considered by Housing Committee	Number of cases approved by Housing Committee	Number re-housed
1970	218	41	39	17
1971	180	31	26	18*

* This figure includes 8 cases which were approved in 1970.

Superannuation Medical Examination

	1971	1970
Number of Questionnaires submitted	1066	1121
Candidates medically examined	155	111
Failed	11	3
Deferred	21	14

Driving Licences for Epileptics

Application for Driving Licences Jan. – Dec. 1971

Number of applications (This includes one for a Diabetic <i>not</i> epilepsy)	53
Number refused	11
Number withdrawn	2
Granted for three years (This includes the diabetic)	15
Granted for one year	25

1971 was the first complete year for assessing epileptics for driving licences. A total of 53 applications was received, one not being epileptic. 11 of these did not fulfil the criteria and were refused. 15 were granted a licence for three years and 25, who had controlled epilepsy, a licence for one year in the first instance.

The numbers referred for investigation appears to be rather small in view of the fact that there are 26,000 applications for licences each year and of them 12,000 are for first licences. Some doubt must be expressed as to whether all epileptics holding licences or applying for an initial licence have divulged the information required on the application form.

	<i>Page</i>		<i>Page</i>		<i>Page</i>
Abortion	19	District Nurse Training School	39	Ice cream	119
Accidents	82, 83	Dressing disposal service	42	Illegitimacy	20, 21
Accidents—road traffic	48, 49	Driving licences for epileptics	146	Immigration	54
Adoption	22	Drugs	86	Improvement grants	99
Ambulance Service	43			Infectious diseases	50
Ante-natal classes	28			Insect control	93
Audiology	18			Introductory letter	5
		Epidemiology	46		
BCG vaccination	63, 75			Laundry service	42
Blind persons	12	Factories Act 1961	101	Lectures	95
British Red Cross Society	42	Fertilisers and Feeding Stuffs Regulations	66, 135	Legal proceedings	94
		Flying squad	25	Leprosy	54
Caravans—Itinerants	81	Food and drugs	100		
Care and after-care	41	Food and Drugs Act 1955	104, 111	Mass Radiography Unit	68
Care of mothers and young children	14	Food-additives and Preservations	120	Meat—contract supplies	89
Cervical cytology	49	defective Composition	124	hygiene	89
Chiropody service	42	hygiene	90	imported	89
Cholera	58	poisoning	53	inspection	87
City Analyst	110	Food Hygiene (general)		slaughtering	87
Clearance areas	78, 96	Regulations 1970	91, 105	Medical equipment loan	42
Clinics—ante-natal	28	Fumes and vapour	85	Midwifery	25
attendances	30	Furnace installations	84	Milk	86, 116
audiology	18			Mobile food shops	90
child health	27	Geriatric care	58	Multiple occupation	79, 80
cytology	28, 49	Grit	85		
development	17			Noise	85
Common lodging house	81	Handicapped children	17	Nursing agencies—registration	34
Compulsory removal	41	Health Committee	3	Nursing homes—registration	34
Congenital malformations	16	Health education	28, 91	Nursing Services	24
Consumer protection	86, 136	Health visiting	27		
Cremation	146	Housing Act. 1964	79		
		Housing Act. 1969	78	Observation register	17
Deaths—age-specific rates	47, 48	Housing—clearance areas	78, 96	Offices, Shops & Railway Premises Act 1963	82, 100
causes of	9	improvements	78	Outworkers	82, 100
infant	15	new building	94		
maternal	8, 25	repair and maintenance	78		
Dairies	86				
Dental report	22				
Diocese of Leicester Council for Social Work	21				

Pasteurised foods	118	Senior public health officers	4	Training—ambulance personnel	44
Pest control	91	Sewerage	144	district nurses	29
Pigeons	93	Shell fish	117	equipment	44
Poisoning	51	Showmen's guild site	82	midwives	26
Population	56, 84, 134	Slaughter—meat	87, 107, 108	Tuberculosis	55, 61
Public Health and Food		poultry	87		
Inspection Department	76	Smallpox vaccination	58		
		Smoke—control	102, 103		
		domestic	84		
		industrial	84	Vaccination and immunisation	58, 72
Radio/telephone communications	44	Superannuation medical examinations	146	Venereal disease	69
Re-housing on medical grounds	146	Swimming pools	81		
Renal dialysis	35				
Rent Act 1957	100				
Restaurants	90	Toxic metals	127	Water—drinking	118
Road Safety Act 1967	133	Trade Descriptions Act 1968	86	supplies	139

